



Kentfield-Performing Arts Lighting Project- #16-0225

Marin Community College District

**Mandatory Conference/Walk: Wednesday, March 9, 2016, at 10:00a.m.
Performing Arts Center Lobby
835 College Avenue, Kentfield, CA 94904**

**Proposal Due Date: received by 3:00 p.m. Thursday, March 31, 2016
1800 Ignacio Blvd., Bldg. #8
Novato, CA 94949**

Contractor Must Have a current & active California "C-10 Electrical Contractor License

TABLE OF CONTENTS

1.1	Notice Inviting Bids
1.2	Instructions To Bidders
1.3	Bid Proposal Form
1.4	Bid Bond
1.5	Subcontractor List Form
1.6	Non-collusion Affidavit
1.7	Workers' Compensation Certificate
1.8	Prevailing Wage and Related Labor Requirements Certification
1.9	Drug-Free Workplace Certification
1.10	Tobacco-Free Environment Certification
1.11	Hazardous Materials Certification
1.12	Lead-Based Materials Certification
1.13	Imported Materials Certification
1.14	W-9
1.15	Bidders' Questionnaire
1.16	Notice of Award
1.17	Agreement
1.18	Notice to Proceed
1.19	Performance Bond
1.20	Payment Bond
1.21	Agreement and Release of Any and All Claims
1.22	Guarantee Form
1.23	General Conditions
2.1	Summary of Work
2.2	Product Options & Substitutions
2.3	Changes in the Work
2.4	Submittals
2.5	Cutting and Patching
2.6	Contract Closeout and Final Cleaning
2.7	Operation and Maintenance Data
2.8	Warranties
2.9	Record Documents
2.10	General Notes
2.11	2015-2016 Academic Calendar

Specifications

11 61 83	Production Lighting Control
26 05 00	Basic Electrical Requirements
26 05 35	Production Systems Electrical Installation
26 08 00	Testing
26 27 00	Basic Electrical Materials and Methods

Drawings

PL-100	Production Lighting Demo Plan
PL-111	Production Lighting Basement Plan
PL-112	Production Lighting First Floor Theatre
PL-113	Production Lighting Second Floor Theatre
PL-114	Production Lighting Upper Levels Theatre
PL-501	Production Lighting Control Riser
PL-502	Production Lighting Schedules
PL-601	Production Lighting Control Device Details
PL-602	Production Lighting Power Device Details
PL-603	Production Lighting Equipment Mounting
PL-604	Production Lighting Stage Equipment Rack
PL-701	Production Lighting Front of House Pipe
E-001	Symbols List, Notes, Single Line Diagram
E-111	Basement Plan-Electrical
E-112	First Floor Theatre-Electrical
E-113	Second Floor Theatre-Electrical
E-114	Upper Levels Theatre-Electrical

END of TABLE OF CONTENTS

1.1 NOTICE INVITING BIDS

1. Notice is hereby given that the Governing Board ("Board") of the Marin Community College District ("District"), of the County of Marin, State of California, will receive sealed bids for the **KENTFIELD Performing Arts Lighting Project #16-0225** ("Project") up to, but not later than, **3:00 p.m. Thursday, March 31, 2016**, and will thereafter publicly open and read aloud the bids. All bids shall be received at the office of the **District Buyer, located at College of Marin, Indian Valley Campus, 1800 Ignacio Blvd., Building 8, in AS Room 130, in Novato, California, 94949.** Bid opening will occur on the date and time stated above at the College of Marin, Indian Valley Campus, 1800 Ignacio Blvd., Administrative Services Building 8, in Room 130, at Novato, California, 94949.
2. Substantial Completion of the work shall be achieved by **August 1, 2016** as set forth in the Notice to Proceed issued by the District. Failure to achieve Substantial Completion with the Contract time will result in the assessment of Liquidated Damages of **\$500/calendar day** as detailed in the General Conditions, Section 22.
3. A summary of this bid includes the removal and replacement of control panels, electronics, data network, dimmers, circuit wiring devices and other related infrastructure to support new theatre lighting being purchased under a separate contract for the theatre located at the Performing Arts Center at the College of Marin, Kentfield Campus.
4. Each bid shall be completed on the Bid Proposal Form included in the Contract Documents, and must conform and be fully responsive to this invitation, the plans and specifications and all other Contract Documents. The Contract Documents are available for review at the College of Marin, Indian Valley Campus, 1800 Ignacio Blvd., Administrative Services Building 8, Room 130, in Novato, California. **Note: It is the responsibility of the bidder to make sure that the bid is delivered to the address listed above. Please be informed that UPS does not deliver directly to this physical address.**
5. Each bid shall be accompanied by cash, a cashier's or certified check, or a bidder's bond executed by a surety licensed to do business in the State of California as a surety, made payable to the District, in an amount not less than ten percent (10%) of the maximum amount of the bid. The check or bid bond shall be given as a guarantee that the bidder to whom the contract is awarded shall execute the Contract Documents and will provide the required payment and performance bonds and insurance certificates within ten (10) days after the notification of the award of the Contract.
6. The successful bidder shall comply with the provisions SB 854 of the Labor Code pertaining to payment of the generally prevailing rate of wages and to apprenticeships or other training programs. The Department of Industrial Relations has made available the general prevailing rate of per diem wages in the locality in which the work is to be performed for each craft, classification or type of worker needed to execute the Contract, including employer payments for health and welfare, pension, vacation, apprenticeship and similar purposes. Copies of these prevailing rates are available to any interested party upon request and are online at <http://www.dir.ca.gov/DLSR>. The Contractor and all Subcontractors shall pay not less than the specified rates to all workers employed by them in the execution of the Contract. It is the Contractor's responsibility to determine any rate change.

7. The schedule of per diem wages is based upon a working day of eight hours. The rate for holiday and overtime work shall be at least time and one half.
8. The substitution of appropriate securities in lieu of retention amounts from progress payments in accordance with Public Contract Code §22300 is permitted.
9. Pursuant to Public Contract Code §4104, each bid shall include the name and location of the place of business of each subcontractor who shall perform work or service or fabricate or install work for the contractor in excess of one-half of one percent (1/2 of 1%) of the bid price. The bid shall describe the type of work to be performed by each listed subcontractor.
10. No bid may be withdrawn for a period of sixty (60) days after the date set for the opening for bids except as provided pursuant to Public Contract Code §§5100 *et seq.* The District reserves the right to reject any and all bids and to waive any informalities or irregularities in the bidding.
11. Minority, women, and disabled veteran contractors are encouraged to submit bids. This bid **is not** subject to Disabled Veteran Business Enterprise requirements.
12. Each bidder shall possess at the time the bid is awarded the following classification(s) of California State Contractor's license: **"C-10 Electrical Contractor" License.**
13. Each bidder and any subcontractors shall possess at the time the bid is awarded **must registered with the California Department of Industrial Relations.**

MARIN COMMUNITY COLLEGE DISTRICT

By: Greg Nelson, Vice President, Finance & College Operations

DATED: February 25, 2016 Publication Dates: 1) February 25, 2016 2) March 3, 2016

1.2 INSTRUCTIONS TO BIDDERS

1. Each bid submitted to the Marin Community College District ("District") for the **KENTFIELD Performing Arts Lighting Project #16-0225**, shall be in accordance with the following instructions and requirements, which are part of the Contract Documents for this Project.
2. **Deadline for Receipt of Proposals.** Each bid shall be sealed and submitted to the District Buyer no later **than 3:00 p.m. Thursday, March 31, 2016**. The District suggests that bids be hand delivered in order to ensure their timely receipt. Any bids received after the time stated, regardless of the reason, shall be returned, unopened, to the bidder. The Buyer office is located at College of Marin, Indian Valley Campus, **1800 Ignacio Boulevard, Building 8, Room 130, in Novato, California, 94949**.
3. **Mandatory Bidders Conference/Walk**. A mandatory bidder's conference/walk will be held on **Wednesday, March 9, 2016 at 10:00 a.m. at the Kentfield Campus Performing Arts Lobby located at 835 College Avenue, Kentfield, California 94904**, for the purpose of acquainting all prospective bidders with the Contract Documents and the Project site. It is required that all prospective bidders attend this conference. The failure to attend the conference will result in the disqualification of the bid of the non-attending bidder. Bid Documents will be distributed at the mandatory bidder's conference. Parking permits for the day will also be issued.
4. **Bid Proposal Forms**. All bid proposals shall be made on the form provided by the District. All items on the form shall be filled out in ink. Numbers should be stated in figures, and the signatures of all individuals must be in long hand. The completed form shall be without interlineations, alterations, or erasures.
5. **Execution of Forms**. Each bid must give the full business address of the bidder and must be signed by the bidder or bidder's authorized representative with his or her usual signature. Bids by partnerships must furnish the full names of all partners and must be signed in the partnership name by a general partner with authority to bind the partnership in such matters. Bids by corporations must be signed with the legal name of the corporation, followed by the signature and designation of the president, secretary, or other person authorized to bind the corporation in this matter. The name of each person signing shall also be typed or printed below the signature. When requested by the District, satisfactory evidence of the authority of the officer signing on behalf of the corporation or partnership shall be furnished. A bidder's failure to properly sign required forms may result in rejection of the bid. All bids must include the bidder's contractor license number(s) and expiration date(s).
6. **Bid Security**. Bid proposals shall be accompanied by a certified or cashier's check or bid bond for an amount not less than ten percent (10%) of the bid amount, payable to the District. A bid bond shall be secured from an admitted surety company, licensed in the State of California, and satisfactory to the District. The bid security shall be given as a guarantee that the bidder will enter into the Contract if awarded the work, and in the case of refusal or failure to enter into the Contract within ten (10) calendar days after notification of the award of the Contract or failure to provide the payment and performance bonds and proof of insurance as required by the Contract Documents, the District shall have the right to award the Contract to another bidder and declare the bid security forfeited. The District reserves the right to pursue all other remedies in law or equity relating to such a breach including, but not limited to, seeking recovery of damages for breach of contract. Failure to provide bid security, or bid security in the proper amount, will result in rejection of the bid.

7. Pre-Bid Conference. If a mandatory pre-bid conference and site visit ("Site Visit") is requested as referenced in the Notice to Bidders, then Bidders must sign-in at the pre-bid conference. District will transmit to all prospective Bidders of record such Addenda as District in its discretion considers necessary in response to questions arising at the Site Visit. Oral statements shall not be relied upon and will not be binding or legally effective. Addenda issued by the District as a result of the Site Visit, if any, shall constitute the sole and exclusive record and statement of the results of the Site Visit.
8. Addenda or Bulletins. The District reserves the right to issue addenda or bulletins prior to the receiving of the bids. Any addenda or bulletins issued prior to bid time shall be considered a part of the Contract Documents.
9. All questions about the meaning or intent of the Contract Documents are to be directed in writing to the District. Interpretations or clarifications considered necessary by the District in response to such questions will be issued in writing by Addenda and posted to the District website (Fiscal Services). Mandatory pre-bid conference attendees will receive Addenda by either email, fax, mail, or delivery depending on the size. Questions received less than **EIGHT (8)** calendar days prior to the date for opening Bids may not be answered. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.
10. Each Bidder must acknowledge each Addendum in its Bid Form and Proposal by number or its Bid shall be considered non-responsive. Each Addendum shall be part of the Contract Documents. A complete listing of Addenda may be secured from the District.
11. Bonds. The successful bidder shall be required to submit payment and performance bonds as specified in and using the bond forms included with the Contract Documents. All required bonds shall be based on the maximum total contract price as awarded, including additive alternates, if applicable.
11. Withdrawal of Bid Proposals. Bid proposals may be withdrawn by the bidders prior to the time fixed for the receiving of bids, but may not be withdrawn for a period of sixty (60) days after the receiving of bids proposals.
12. Rejection of Bids and Award of Contract. The District reserves the right to waive any irregularities in the bid and reserves the right to reject any and all bids. The Contract will be awarded, if at all, within sixty (60) calendar days after the bids are received and reviewed to the "Best Value" responsive bidder, subject to Governing Board approval. The time for awarding the Contract may be extended by the District with the consent of the Best Value bidder.
13. Execution of Contract. The successful bidder shall, within ten (10) calendar days of the Notice of Award of the Contract, sign and deliver to the District the executed Contract along with the bonds and certificates of insurance required by the Contract Documents. In the event the successful bidder fails or refuses to execute the Contract or fails to provide the bonds and certificates as required, the District may declare the bidder's bid deposit or bond forfeited as liquidated damages, and may award the work to the next Best Value responsible, responsive bidder, or may reject all bids and, in its sole discretion, call for new bids. In all cases, the District reserves the right, without any liability, to cancel the award of Contract at any time prior to the full execution of the Contract.
14. Drawings and Specifications. All drawings, specifications and other documents prepared during the project shall be the exclusive property of the District.

15. Evidence of Responsibility. Upon the request of the District, a bidder shall submit promptly to the District satisfactory evidence showing the bidder's financial resources, the bidder's experience in the type of work being required by the District, the bidder's availability to perform the Contract and any other required evidence of the bidder's qualifications to perform the Contract and any other required evidence of the bidder's qualifications and responsibility to perform the Contract. The District may consider such evidence before making its decision to award the Contract. Failure to submit requested evidence may result in rejection of the bid.
16. Taxes. Applicable taxes shall be included in the bid prices.
17. Bid Exceptions. Bid exceptions are not allowed. If the bidder has a comment regarding the bid documents or the scope of work, the bidder shall submit those comments to the District for evaluation at least five working days prior to the receiving of the bids. No oral or telephonic modification of any bid submitted will be considered and a sealed written modification may be considered only if received prior to receiving of bids. E-mailed or faxed bids or modifications will not be accepted.
18. Discounts. Any discounts which the bidder desires to provide the District must be stated clearly on the bid form itself so that the District can calculate the net cost of the bid proposal. Offers of discounts or additional services not delineated on the bid form will not be considered by the District in the determination of the best value responsible responsive bidder.
19. Quantities. The quantities shown on the plans and specifications are approximate. The District reserves the right to increase or decrease quantities as desired.
20. Prices. Bidders must quote prices Freight on Board (F.O.B.) unless otherwise noted. Prices should be stated in the units specified and bidders should quote each item separately.
21. Samples. On request, samples of the products being bid shall be furnished to the District.
22. Special Brand Names/Substitutions. In describing any item, the use of a manufacturer or special brand does not restrict bidding to that manufacturer or special brand, but is intended only to indicate quality and type of item desired, except as provided in §3400 of the Public Contract Code. Substitute products will be considered either prior to or after the award of the Contract in accordance with §3400 and as set forth in either the Supplemental Conditions or the Specifications. All data substantiating the proposed substitute as an "equal" item shall be submitted with the written request for substitution. The District reserves the right to make all final decisions on product and vendor selection.
23. Container Costs and Delivery. All costs for containers shall be borne by the bidder. All products shall conform to the provisions set forth in the federal, county, state and city laws for their production, handling, processing and labeling. Packages shall be so constructed in ensure safe transportation to point of delivery.
24. Bid Negotiations. A bid response to any specific item of this bid using terms such as "negotiable," "will negotiate," or similar, will be considered non-responsive.
25. Prevailing Law. In the event of any conflict or ambiguity between these instructions and state or federal law or regulations, the latter shall prevail. All equipment to be supplied or services to be performed under the bid proposal shall conform to all applicable requirements of local, state and federal law, including, but not limited to, Labor Code §§1771, 1778 and 1779.

26. Allowances. An "allowance" means an amount included in the bid proposal for work that may or may not be included in the Project, depending on conditions that will become known only after the Project is underway.
27. Subcontractors. Pursuant to the Subletting and Subcontracting Fair Practices Act, Public Contract Code §§4100-4114, every bidder shall, on the enclosed Subcontractor List Form, set forth:
- a. The name and location of the place of business of each Subcontractor who will perform work or labor or render service to the bidder in or about the work or fabricate and install work in an amount in excess of one-half (1/2) of one percent (1%) of the bidder's total bid.
 - b. If the bidder fails to specify a Subcontractor for any portion of the work to be performed under the contract in excess of one-half (1/2) of one percent (1%) of the bidder's total bid, bidder agrees that bidder is fully qualified to and shall perform that portion of the work. The successful bidder shall not, without the written consent of the District or compliance with Public Contract Code §§ 4100 - 4114, either:
 - 1) Substitute any person as Subcontractor in place of the Subcontractor designated in the original bid;
 - 2) Permit any subcontract to be voluntarily assigned or transferred or allow the work to be performed by anyone other than the original Subcontractor listed in the bid; or
 - 3) Sublet or subcontract any portion of the work in excess of one-half (1/2) of one percent (1%) of the total bid as to which the bidder's original bid did not designate a Subcontractor.
28. Examination of Contract Documents and Work Site. Before submitting a bid proposal, all bidders shall carefully examine the Contract Documents, including specifications, shall visit the site of the proposed work, and shall fully inform themselves of all conditions in and about the work site, as well as applicable federal, state and local laws and regulations that may affect the work. No bidder shall visit the site without prior authorization of the District. Bidders shall contact the Director of Maintenance and Operations for coordination of site visits.
29. Form and Approval of Contract. The Contract Documents must be approved by the Governing Board of the District and its legal counsel. The bidder selected by the District shall execute the Contract provided by the District.
30. Licenses and Permits. Each bidder, and its Subcontractors, if any, shall at all times possess all appropriate and required licenses or other permits to perform the work as identified in the Contract Documents. Upon request, each bidder shall furnish the District with evidence demonstrating possession of the required licenses or permits.
31. Denial of Right to Bid. Contractors or Subcontractors who have violated state law governing public works shall be denied the right to bid on this public works contract pursuant to California Labor Code § 1777.7.
32. Bidders Interested in More Than One Bid. No person, firm, or corporation shall make, or file, or be interested in more than one bid. However, a person, firm, or corporation that has submitted a sub-proposal to a bidder, or that has quoted prices of materials to a bidder, is not thereby disqualified from submitting a sub-proposal or quoting prices to other bidders or from submitting a prime proposal.

33. Contractor's State License Board. Contractors and Subcontractors are required by law to be licensed and regulated by the California Contractors' License Board.
34. Bid Protest. Any bid protest must be in writing and received by the District Office before 5:00 p.m. no later than three (3) working days following bid awarding and must comply with the following requirements:
- a. The bid protest must contain a complete statement of the basis for the protest, and all supporting documentation.
 - b. The party filing the protest must have actually submitted a bid for the Project. A Subcontractor of a bidder submitting a bid for the Project may not submit a bid protest. A bidder may not rely on the bid protest submitted by another bidder, but must timely pursue its own protest.
 - c. The protest must refer to the specific portion or portions of the Contract Documents upon which the protest is based.
 - d. The protest must include the name, address and telephone number of the person representing the protesting bidder.
 - e. The bidder filing the protest must concurrently transmit a copy of the bid protest and all supporting documentation to all other bidders with a direct financial interest which may be affected by the outcome of the protest, including all other bidders who appear to have a reasonable prospect of receiving an award depending upon the outcome of the protest.
 - f. The bidder whose bid has been protested may submit a written response to the bid protest. Such response shall be submitted to the District before 5 p.m., no later than two (2) working days after the deadline for submission of the bid protest or other receipt of the bid protest, whichever is sooner, and shall include all supporting documentation. Such response shall also be transmitted concurrently to the protesting bidder and to all other bidders who appear to have a reasonable prospect of receiving an award depending upon the outcome of the protest.
 - g. The procedure and time limits set forth in this section are mandatory and are the bidder's sole and exclusive remedy in the event of bid protest. The bidder's failure to comply with these procedures shall constitute a waiver of any right to further pursue the bid protest, including filing a Government Code Claim or legal proceedings.
 - h. If the District determines that a protest is frivolous, the protesting bidder may be determined to be non-responsible and that bidder may be determined to be ineligible for future contract awards by the District.
 - i. A "working day" for purposes of this section means a weekday during which the District's office is open and conducting business, regardless of whether or not school is in session.

1.3 BID PROPOSAL FORM

Governing Board

Marin Community College District

Dear Members of the Governing Board:

The undersigned, doing business under the name of:

_____ ,
having carefully examined the location of the proposed work, the local conditions of the place where the work is to be done, the Notice Inviting Bids, the General Conditions, the Instructions to Bidders, the Plans and Specifications, and all other Contract Documents for the proposed **KENTFIELD Performing Arts Lighting Project #16-0225**, ("Project"), and having accurately completed the Bidder's Questionnaire, proposes to perform all work and activities in accordance with the Contract Documents, including all of its component parts, and to furnish all required labor, materials, equipment, transportation and services required for the performance of the Project in strict conformity with the Contract Documents, including the Plans and Specifications as follows:

BASE BID (Including an **Allowance** of **\$10,000** for unforeseen conditions):

For the sum of:

_____ Dollars

(\$ _____)

The undersigned has checked carefully all the above figures and understands that the District is not responsible for any errors or omissions on the part of the undersigned in making this bid.

Enclosed find certified or cashier's check No. _____ of the _____ Bank

For _____ Dollars

(\$ _____)

or Bidder's Bond of the _____ surety company in an amount of not less than ten percent (10%) of the entire bid. The undersigned further agrees, on the acceptance of this proposal, to execute the Contract and provide the required bonds and insurance, and that in case of default in executing these documents within the time fixed by the Contract Documents, the proceeds of the check or bond, accompanying this bid, shall be forfeited and shall become the property of the District.

Contractor agrees to commence the work within the time specified in the Notice to Proceed. It is understood that this bid is based upon completing the work within the number of calendar days specified in the Contract Documents.

ADDENDA:

Receipt of the following addenda is hereby acknowledged:

Addendum # _____ Dated: _____ Addendum # _____ Dated: _____

Addendum # _____ Dated: _____ Addendum # _____ Dated: _____

Respectfully Submitted,

Company: _____

Address: _____

By: _____

(Please Print or Type)

Signature: _____

Title: _____

Date: _____

Phone: _____

Contractor's License No: _____ Expiration Date _____

Required Attachments:

- Subcontractor List Form
- Worker's Compensation Certificate
- Non-Collusion Affidavit
- Bid Bond (or Cashier's or Certified Check)
- Contractor's W-9
- Bidder's Questionnaire

1.4 BID BOND

To be completed by bidder and submitted with bid.

We, the Contractor, _____ as principal ("Principal"), and

_____, as surety ("Surety") are firmly bound unto the Marin Community College District ("District"), in the penal sum of ten percent (10%) of the total amount of the bid of the Principal submitted to the District for the work described below for the payment of which sum in lawful money of the United States, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by this agreement.

Whereas, the Principal has submitted the accompanying bid ("Bid") dated _____, for the following project ("Project"):

KENTFIELD Performing Arts Lighting Project #16-0225,

Now, therefore, if the Principal does not withdraw its Bid within the period specified, and if the Principal is awarded the Contract and within the period specified fails to enter into a written contract with District, in accordance with the Bid as accepted, or fails to provide the proof of required insurance, performance bond and/or the payment bond by an admitted surety within the time required, or in the event of unauthorized withdrawal of the Bid, if the Principal pays the District the difference between the amount specified in the Bid and the amount for which District may procure the required work and/or supplies, if the latter amount is in excess of the former, together with all related costs incurred by District, then the above obligation shall be void and of no effect. Otherwise, the Principal and Surety shall pay to the District the penal sum described above as liquidated damages.

Surety, for value received, hereby agrees that no change, extension of time, alteration or addition to the term of the Contract or the call for bids, or to the work to be performed thereunder, or the Specifications accompanying the same, shall in any way affect its obligation under this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition.

In witness whereof the above-bound parties have executed this instrument under their several seals this _____ day of _____, 2016, the name and corporate seal of each corporate Party being hereunder affixed and these presents duly signed by its undersigned representative, pursuant to the authority of its governing body.

(Corporate Seal)

Principal/Contractor

By _____

Title _____

(Corporate Seal)

Surety

Attach Attorney-In-Fact

By _____

Certificate

Title _____

To be signed by Principal and Surety and Acknowledgment and Notary Seal to be attached.

1.5 SUBCONTRACTOR LIST FORM

This document to be completed and submitted with bid.

Each Bidder shall list below the name and location of place of business for each Subcontractor who will perform a portion of the Contract work in an amount in excess of 1/2 of 1 percent of the total contract price. The nature of the work to be subcontracted shall be described.

DESCRIPTION OF WORK	SUBCONTRACTOR NAME	SUBCONTRACTOR'S LICENSE	LOCATION OF BUSINESS

1.6 NONCOLLUSION AFFIDAVIT

To be executed by bidder and submitted with bid.

State of California

County of (_____)

_____, being first duly sworn, deposes and says that he or she is _____ of _____ the party making the foregoing bid, and affirms that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true and correct; and, further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

I certify (or declare) under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Date: _____
Signature _____

State of _____, County of _____

On _____ before me, _____, personally appeared

personally known to me or proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity (ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Signature of Notary Public

1.7 WORKERS' COMPENSATION CERTIFICATE

This document to be completed and submitted with bid

Labor Code §3700 in relevant part provides:

"Every employer except the State shall secure the payment of compensation in one or more of the following ways:

- (a) By being insured against liability to pay compensation in one or more insurers duly authorized to write compensation insurance in this State.
- (b) Be securing from the Director of Industrial Relations a certificate of consent to self-insure, which may be given upon furnishing proof satisfactory to the Director of Industrial Relations of ability to self-insure and to pay any compensation that may become due to his employees."

I am aware of the provisions of §3700 of the Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that Code, and I will comply with such provisions before commencing the performance of the work of this Contract and will require all Subcontractors to do the same.

Contractor

By: _____

In accordance with Article 5 (commencing at §1860), Chapter 1, Part 7, Division 2 of the Labor Code, the above certificate must be signed and filed with the awarding body prior to performing any work under this Contract.

**1.8 PREVAILING WAGE AND
RELATED LABOR REQUIREMENTS CERTIFICATION**

PROJECT/CONTRACT NO.: **KENTFIELD Performing Arts Lighting Project #16-0225**
("Contract" or "Project") between Marin Community College_District ("District") and _____
("Contractor" or "Bidder").

I hereby certify that I will conform to the State of California Public Works Contract requirements regarding prevailing wages, benefits, on-site audits with 48-hours notice, payroll records, and apprentice and trainee employment requirements, for all Work on the above Project including, without limitation, the labor compliance program, if this Project is subject to a labor compliance program.

~~**[IF THIS PROJECT USES FEDERAL FUNDS, DISTRICT SHOULD INCLUDE THE FOLLOWING]**~~
I hereby certify that I will also conform to the Federal Labor Standards Provisions regarding minimum wages, withholding, payrolls and basic records, apprentice and trainee employment requirements, equal employment opportunity requirements, Copeland Act requirements, Davis-Bacon and Related Act requirements, Contract Work Hours and Safety Standards Act requirements, and any and all other applicable requirements for federal funding for all Work on the above Project.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

1.9 DRUG-FREE WORKPLACE CERTIFICATION

PROJECT/CONTRACT NO.: **KENTFIELD Performing Arts Lighting Project #16-0225**
("Contract" or "Project") between Marin Community College_District ("District") and _____ ("Contractor" or "Bidder").

This Drug-Free Workplace Certification form is required from the successful Bidder pursuant to Government Code section 8350 et seq., the Drug-Free Workplace Act of 1990. The Drug-Free Workplace Act of 1990 requires that every person or organization awarded a contract or grant for the procurement of any property or service from any state agency must certify that it will provide a drug-free workplace by doing certain specified acts. In addition, the Act provides that each contract or grant awarded by a state agency may be subject to suspension of payments or termination of the contract or grant, and the contractor or grantee may be subject to debarment from future contracting, if the contracting agency determines that specified acts have occurred.

The District is not a "state agency" as defined in the applicable section(s) of the Government Code, but the District is a local agency and public school district under California law and requires all contractors on District projects to comply with the provisions and requirements of Government Code section 8350 et seq., the Drug-Free Workplace Act of 1990.

Contractor shall certify that it will provide a drug-free workplace by doing all of the following:

- a. Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance is prohibited in the person's or organization's workplace and specifying actions which will be taken against employees for violations of the prohibition.
- b. Establishing a drug-free awareness program to inform employees about all of the following:
 - (1) The dangers of drug abuse in the workplace.
 - (2) The person's or organization's policy of maintaining a drug-free workplace.
 - (3) The availability of drug counseling, rehabilitation, and employee-assistance programs.
 - (4) The penalties that may be imposed upon employees for drug abuse violations.
- c. Requiring that each employee engaged in the performance of the contract or grant be given a copy of the statement required above, and that, as a condition of employment on the contract or grant, the employee agrees to abide by the terms of the statement.

I, the undersigned, agree to fulfill the terms and requirements of Government Code section 8355 listed above and will publish a statement notifying employees concerning (a) the prohibition of controlled substance at the workplace, (b) establishing a drug-free awareness program, and (c) requiring that each employee engaged in the performance of the Contract be given a copy of the statement required by section 8355(a), and requiring that the employee agree to abide by the terms of that statement.

I also understand that if the District determines that I have either (a) made a false certification herein, or (b) violated this certification by failing to carry out the requirements of section 8355, that the Contract awarded herein is subject to termination, suspension of payments, or both. I

further understand that, should I violate the terms of the Drug-Free Workplace Act of 1990, I may be subject to debarment in accordance with the requirements of the aforementioned Act.

I acknowledge that I am aware of the provisions of Government Code section 8350 et seq. and hereby certify that I will adhere to the requirements of the Drug-Free Workplace Act of 1990.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

1.10 TOBACCO-FREE ENVIRONMENT CERTIFICATION

PROJECT/CONTRACT NO.: **KENTFIELD Performing Arts Lighting Project #16-0225**
("Contract" or "Project") between Marin Community College_District ("District") and _____ ("Contractor" or "Bidder").

This Tobacco-Free Environment Certification form is required from the successful Bidder.

Pursuant to, without limitation, 20 U.S.C section 6083, Labor Code section 6400 et seq., Health & Safety Code section 104350 et seq. and District Board Policies, all District sites, including the Project site, are tobacco-free environments. Smoking and the use of tobacco products by all persons is prohibited on or in District property. District property includes school buildings, school grounds, school owned vehicles and vehicles owned by others while on District property.

I acknowledge that I am aware of the District's policy regarding tobacco-free environments at District sites, including the Project site and hereby certify that I will adhere to the requirements of that policy and not permit any of my firm's employees, agents, subcontractors, or my firm's subcontractors' employees or agents to use tobacco and/or smoke on the Project site.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

1.11 HAZARDOUS MATERIALS CERTIFICATION

PROJECT/CONTRACT NO.: **KENTFIELD Performing Arts Lighting Project #16-0225**
("Contract" or "Project") between Marin Community College_District ("District") and _____ ("Contractor" or "Bidder").

1. Contractor hereby certifies that no Asbestos, or Asbestos-Containing Materials, polychlorinated biphenyl (PCB), or any material listed by the federal or state Environmental Protection Agency or federal or state health agencies as a hazardous material, or any other material defined as being hazardous under federal or state laws, rules, or regulations ("New Hazardous Material"), shall be furnished, installed, or incorporated in any way into the Project or in any tools, devices, clothing, or equipment used to affect any portion of Contractor's work on the Project for District.
2. Contractor further certifies that it has instructed its employees with respect to the above-mentioned standards, hazards, risks, and liabilities.
3. Asbestos and/or asbestos-containing material shall be defined as all items containing but not limited to chrysotile, crocidolite, amosite, anthophyllite, tremolite, and actinolite. Any or all material containing greater than one-tenth of one percent (0.1%) asbestos shall be defined as asbestos-containing material.
4. Any disputes involving the question of whether or not material is New Hazardous Material shall be settled by electron microscopy or other appropriate and recognized testing procedure, at the District's determination. The costs of any such tests shall be paid by Contractor if the material is found to be New Hazardous Material.
5. All Work or materials found to be New Hazardous Material or Work or material installed with equipment containing "New Hazardous Material" will be immediately rejected and this Work will be removed at Contractor's expense at no additional cost to the District.
6. Contractor has read and understood the document Hazardous Materials Procedures & Requirements, and shall comply with all the provisions outlined therein.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

1.12 LEAD-BASED MATERIALS CERTIFICATION

PROJECT/CONTRACT NO.: **KENTFIELD Performing Arts Lighting Project #16-0225**
("Contract" or "Project") between Marin Community College_District ("District") and _____ ("Contractor" or "Bidder").

This certification provides notice to the Contractor that:

- (1) Contractor's work may disturb lead-containing building materials.
- (2) Contractor shall notify the District if any work may result in the disturbance of lead-containing building materials.
- (3) Contractor shall comply with the Renovation, Repair and Painting Rule, if lead-based paint is disturbed in a six-square-foot or greater area indoors or a 20-square-foot or greater area outdoors.

1. Lead as a Health Hazard

Lead poisoning is recognized as a serious environmental health hazard facing children today. Even at low levels of exposure, much lower than previously believed, lead can impair the development of a child's central nervous system, causing learning disabilities, and leading to serious behavioral problems. Lead enters the environment as tiny lead particles and lead dust disburse when paint chips, chalks, peels, wears away over time, or is otherwise disturbed. Ingestion of lead dust is the most common pathway of childhood poisoning; lead dust gets on a child's hands and toys and then into a child's mouth through common hand-to-mouth activity. Exposures may result from construction or remodeling activities that disturb lead paint, from ordinary wear and tear of windows and doors, or from friction on other surfaces.

Ordinary construction and renovation or repainting activities carried out without lead-safe work practices can disturb lead-based paint and create significant hazards. Improper removal practices, such as dry scraping, sanding, or water blasting painted surfaces, are likely to generate high volumes of lead dust.

Because the Contractor and its employees will be providing services for the District, and because the Contractor's work may disturb lead-containing building materials, CONTRACTOR IS HEREBY NOTIFIED of the potential presence of lead-containing materials located within certain buildings utilized by the District. All school buildings built prior to 1978 are presumed to contain some lead-based paint until sampling proves otherwise.

2. Overview of California Law

Education Code section 32240 et seq. is known as the Lead-Safe Schools Protection Act. Under this act, the Department of Health Services is to conduct a sample survey of schools in the State of California for the purpose of developing risk factors to predict lead contamination in public schools. (Ed. Code, § 32241.)

Any school that undertakes any action to abate existing risk factors for lead is required to utilize trained and state-certified contractors, inspectors, and workers. (Ed. Code, § 32243, subd. (b).) Moreover, lead-based paint, lead plumbing, and solders, or other potential sources of lead contamination, shall not be utilized in the construction of any new school facility or the modernization or renovation of any existing school facility. (Ed. Code, § 32244.)

Both the Federal Occupational Safety and Health Administration ("Fed/OSHA") and the California Division of Occupational Safety and Health ("Cal/OSHA") have implemented safety orders applicable to all construction work where a contractor's employee may be occupationally exposed to lead.

The OSHA Regulations apply to all construction work where a contractor's employee may be occupationally exposed to lead. The OSHA Regulations contain specific and detailed requirements imposed on contractors subject to that regulation. The OSHA Regulations define construction work as work for construction, alteration, and/or repair, including painting and decorating. It includes, but is not limited to, the following:

- a. Demolition or salvage of structures where lead or materials containing lead are present;
- b. Removal or encapsulation of materials containing lead;
- c. New construction, alteration, repair, or renovation of structures, substrates, or portions thereof, that contain lead, or materials containing lead;
- d. Installation of products containing lead;
- e. Lead contamination/emergency cleanup;
- f. Transportation, disposal, storage, or containment of lead or materials containing lead on the site or location at which construction activities are performed; and
- g. Maintenance operations associated with the construction activities described in the subsection.

Because it is assumed by the District that all painted surfaces (interior as well as exterior) within the District contain some level of lead, it is imperative that the Contractor, its workers and subcontractors fully and adequately comply with all applicable laws, rules and regulations governing lead-based materials (including title 8, California Code of Regulations, section 1532.1).

END OF DOCUMENT

1.13 CONTRACTOR W-9

Form W-9 (Rev. August 2013) Department of the Treasury Internal Revenue Service	Request for Taxpayer Identification Number and Certification	Give Form to the requester. Do not send to the IRS.
Print or type See Specific instructions on page 2.	Name (as shown on your income tax return)	
	Business name/disregarded entity name, if different from above	
	Check appropriate box for federal tax classification: <input type="checkbox"/> Individual/sole proprietor <input type="checkbox"/> C Corporation <input type="checkbox"/> S Corporation <input type="checkbox"/> Partnership <input type="checkbox"/> Trust/estate <input type="checkbox"/> Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=partnership) ▶ _____ <input type="checkbox"/> Other (see instructions) ▶ _____	Exemptions (see instructions): Exempt payee code (if any) _____ Exemption from FATCA reporting code (if any) _____
	Address (number, street, and apt. or suite no.)	Requester's name and address (optional)
	City, state, and ZIP code	Marin Community College District 1800 Ignacio Blvd Novato CA 94949-4912
List account number(s) here (optional)		

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on the "Name" line to avoid backup withholding. For individuals, this is your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN* on page 3.

Note. If the account is in more than one name, see the chart on page 4 for guidelines on whose number to enter.

Social security number								
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Employer identification number								
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-	-	-	-					

Part II Certification

Under penalties of perjury, I certify that:

- The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me), and
- I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding, and
- I am a U.S. citizen or other U.S. person (defined below), and
- The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions on page 3.

Sign Here	Signature of U.S. person ▶	Date ▶
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General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. The IRS has created a page on www.irs.gov/w9 for information about Form W-9, at www.irs.gov/w9. Information about any future developments affecting Form W-9 (such as legislation enacted after we release it) will be posted on that page.

Purpose of Form

A person who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) to report, for example, income paid to you, payments made to you in settlement of payment card and third party network transactions, real estate transactions, mortgage interest you paid, acquisition or abandonment of secured property, cancellation of debt, or contributions you made to an IRA.

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN to the person requesting it (the requester) and, when applicable, to:

- Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
- Certify that you are not subject to backup withholding, or
- Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income, and
- Certify that FATCA code(s) entered on this form (if any) indicating that you are exempt from the FATCA reporting, is correct.

Note. If you are a U.S. person and a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

Definition of a U.S. person. For federal tax purposes, you are considered a U.S. person if you are:

- An individual who is a U.S. citizen or U.S. resident alien,
- A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States,
- An estate (other than a foreign estate), or
- A domestic trust (as defined in Regulations section 301.7701-7).

Special rules for partnerships. Partnerships that conduct a trade or business in the United States are generally required to pay a withholding tax under section 1446 on any foreign partners' share of effectively connected taxable income from such business. Further, in certain cases where a Form W-9 has not been received, the rules under section 1446 require a partnership to presume that a partner is a foreign person, and pay the section 1446 withholding tax. Therefore, if you are a U.S. person that is a partner in a partnership conducting a trade or business in the United States, provide Form W-9 to the partnership to establish your U.S. status and avoid section 1446 withholding on your share of partnership income.

1.14 BIDDER'S QUESTIONNAIRE

To be completed by bidder and submitted with bid.

KENTFIELD Performing Arts Lighting Project #16-0225

TO THE BIDDER:

In making its award the Governing Board will take into consideration Bidder's experience, financial responsibility and capability. The following questionnaire is a part of the bid. Any bid received without this completed questionnaire may be rejected as nonresponsive. The Board will use, but will not be limited to, the information provided herein for evaluating the qualifications and responsibility of the bidder and the bidder's organization to carry out satisfactorily the terms of the Contract Document. The questionnaire must be filled out accurately and completely and submitted with the bid. Any errors, omissions or misrepresentation of information may be considered as a basis for the rejection of the bid and may be grounds for the termination of any subsequent contract executed as a result of the bid.

A. Description of Bidder's Organization

1. Firm Name _____

2. Address _____

3. Telephone Number _____

4. Type of Organization

a. Corporation? Yes ____ No ____

If yes, list officers and positions, and the State in which incorporated.

If the Bidder corporation is a subsidiary, give name and address of parent corporation:

b. Partnership? Yes ____ No ____

If yes, list partner's names and addresses

General Partners:

Limited Partners:

c. Individual Proprietorship? Yes ____ No ____

If yes, list name and address of proprietor:

B. Nature of Operations

1. How long have you been engaged in the contracting business under your present business name? _____

2. How many years of experience does your business have in electrical/lighting control services work similar to that called for under this bid?

3. Do you currently have contracts, or have you ever contracted, to provide electrical/lighting control services for any school district, community college district or county office of education in the State of California? Yes ____ No ____

a. If "yes," on a separate attached sheet, provide the following information for all electrical/lighting control services projects you have had with school districts, community college districts, or county offices of education during the last four (4) years:

1. Year contract awarded
2. Type of work
3. Contract completion time called for/actual completion time
4. Contract price
5. For whom performed, including person to call for reference and telephone number
6. Location of work
7. Number of stop notices filed
8. For each contract, list any lawsuits filed relating to that contract in which you were a defendant or plaintiff
9. Amount of liquidated damages assessed

b. On a separate attached sheet, provide the following information for all electrical/lighting control services contracts of a similar nature as called for in this bid that you have had with entities other than school districts, community college districts and county offices of education during the last four (4) years:

1. Year contract awarded
2. Type of work

3. Contract completion time called for/actual completion time
 4. Contract price
 5. For whom performed, including person to call for reference and telephone number
 6. Location of work
 7. Number of stop notices filed
 8. For each contract list any lawsuits filed relating to that contract in which you were a defendant or plaintiff
 9. Amount of liquidated damages assessed
- c. For each electrical/ lighting control services contract that you have failed to complete within the contract time in the last four (4) years, please state the reasons for the untimely performance.

C. Financial and Credit Data

1. If your bid is considered for award, and if requested by the District, will you supply the following data? Yes ____ No ____
 - a. Names and addresses of any banks where you regularly do business.
 - b. The names and addresses of any banks, finance companies, dealers, suppliers, or others where you have notes or loans.
 - c. Give credit references, including at least three trade or industry suppliers with whom you regularly deal.
2. Will you submit on request a balance sheet for the past three (3) years? Yes ____ No ____
3. Where have you engaged in the electrical/lighting control services business or any other type of business in the last five (5) years?

<u>Name of Business</u>	<u>Location</u>	<u>Type of Business</u>	<u>Years in Business</u>
-------------------------	-----------------	-------------------------	--------------------------

If any of the business endeavors referred to above are no longer operating, or you are no longer associated with them, please give brief details:

4. The following surety companies may be contacted as references as to the financial responsibility and general reliability of the bidder:

Surety Name

Contact Person

Phone Number

I certify under penalty of perjury that the foregoing is true and correct. Executed at

_____, California, on _____, 20__.

Signature of Bidder _____

Name (*print*) _____

1.15 NOTICE OF AWARD

Dated: _____ 20____

To: _____
(Contractor)

To: _____
(Address)

From: Governing Board ("Board") of Marin Community College District ("District" or "Owner")

PROJECT: _____
("Project" or "Contract").

Contractor has been awarded the referenced Contract on _____, 20____,
[**CHOOSE ONE**: by action of the District's Board **[OR]** by action of the superintendent or
superintendent's designee pursuant to a delegation of authority by the District's Board].

The Contract Price is _____ Dollars (\$ _____),

and includes alternates
_____.

Three (3) copies of each of the Contract Documents (except Drawings) accompany this Notice of Award. Three (3) sets of the Drawings will be delivered separately or otherwise made available. Additional copies are available at cost of reproduction.

You must comply with the following conditions precedent within **SEVEN (7)** calendar days of the date of this Notice of Award.

The Bidder to whom Contract is awarded shall execute and submit the following documents by 5:00 p.m. of the **SEVENTH (7th)** calendar day following the date of the Notice of Award.

- a. Agreement: To be executed by successful Bidder. Submit four (4) copies, each bearing an original signature.
- b. Escrow of Bid Documentation: This must include all required documentation. See the document Escrow of Bid Documentation for more information.
- c. Performance Bond (100%): On the form provided in the Contract Documents and fully executed as indicated on the form.
- d. Payment Bond (Contractor's Labor & Material Bond) (100%): On the form provided in the Contract Documents and fully executed as indicated on the form.
- e. Insurance Certificates and Endorsements as required.
- f. Workers' Compensation Certification.
- g. Prevailing Wage and Related Labor Requirements Certification.

- h. Drug-Free Workplace Certification.
- i. Tobacco-Free Environment Certification.
- j. Hazardous Materials Certification.
- k. Lead-Based Paint Certification.

Failure to comply with these conditions within the time specified will entitle District to consider your bid abandoned, to annul this Notice of Award, and to declare your Bid Security forfeited, as well as any other rights the District may have against the Contractor.

After you comply with those conditions, District will return to you one fully signed counterpart of the Agreement.

MARIN COMMUNITY COLLEGE SCHOOL DISTRICT

BY: _____

NAME: _____

TITLE: _____

END OF DOCUMENT

SAMPLE
1.16 AGREEMENT

THIS AGREEMENT IS MADE AND ENTERED INTO THIS _____ DAY OF _____,
20____, by and between the Marin Community College District ("District") and
_____ ("Contractor") ("Agreement").

WITNESSETH: That the parties hereto have mutually covenanted and agreed, and by these presents do covenant and agree with each other, as follows:

- 1. The Work:** Contractor agrees to furnish all tools, equipment, apparatus, facilities, labor, and material necessary to perform and complete in a good and workmanlike manner, the work of the following project:

PROJECT: **KENTFIELD Performing Arts Lighting Project #16-0225**

("Project" or "Contract" or "Work")

It is understood and agreed that the Work shall be performed and completed as required in the Contract Documents including, without limitation, the Drawings and Specifications and submission of all documents required to secure funding or by the Division of the State Architect for close-out of the Project, under the direction and supervision of, and subject to the approval of, the District or its authorized representative.

- 2. The Contract Documents:** The complete Contract consists of all Contract Documents as defined in the General Conditions and incorporated herein by this reference. Any and all obligations of the District and Contractor are fully set forth and described in the Contract Documents. All Contract Documents are intended to cooperate so that any Work called for in one and not mentioned in the other or vice versa is to be executed the same as if mentioned in all Contract Documents.
- 3. Interpretation of Contract Documents:** Should any question arise concerning the intent or meaning of Contract Documents, including the Drawings or Specifications, the question shall be submitted to the District for interpretation. If a conflict exists in the Contract Documents, modifications, beginning with the most recent, shall control over this Agreement (if any), which shall control over the Special Conditions, which shall control over any Supplemental Conditions, which shall control over the General Conditions, which shall control over the remaining Division 0 documents, which shall control over Division 1 Documents which shall control over Division 2 through Division 18 documents, which shall control over figured dimensions, which shall control over large-scale drawings, which shall control over small-scale drawings. In no case shall a document calling for lower quality and/or quantity material or workmanship control. The decision of the District in the matter shall be final.
- 4. Time for Completion:** It is hereby understood and agreed that the work under this contract shall be completed by **August 1, 2016** or as otherwise specified in the District's Notice to Proceed.
- 5. Completion-Extension of Time:** Should the Contractor fail to complete this Contract, and the Work provided herein, within the time fixed for completion, due allowance being made for the contingencies provided for herein, the Contractor shall become liable to the District for all loss and damage that the District may suffer on account thereof. The Contractor shall coordinate its work with the Work of all other contractors. The District shall not be liable for

delays resulting from Contractor's failure to coordinate its Work with other contractors in a manner that will allow timely completion of Contractor's Work. Contractor shall be liable for delays to other contractors caused by Contractor's failure to coordinate its Work with the work of other contractors.

6. **Liquidated Damages:** Time is of the essence for all work under this Agreement. It is hereby understood and agreed that it is and will be difficult and/or impossible to ascertain and determine the actual damage that the District will sustain in the event of and by reason of Contractor's delay; therefore, Contractor agrees that it shall pay to the District the sum of **Five-Hundred dollars (\$ 500)** per day as liquidated damages for each and every day's delay beyond the time herein prescribed in finishing the Work.

It is hereby understood and agreed that this amount is not a penalty.

In the event any portion of the liquidated damages are not paid to the District, the District may deduct that amount from any money due or that may become due the Contractor under this Agreement. The District's right to assess liquidated damages is as indicated herein and in the General Conditions.

The time during which the Contract is delayed for cause as hereinafter specified may extend the time of completion for a reasonable time as the District may grant. This provision does not exclude the recovery of damages for delay by either party under other provisions in the Contract Documents.

7. **Loss Or Damage:** The District and its authorized representatives shall not in any way or manner be answerable or suffer loss, damage, expense, or liability for any loss or damage that may happen to the Work, or any part thereof, or in or about the same during its construction and before acceptance, and the Contractor shall assume all liabilities of every kind or nature arising from the Work, either by accident, negligence, theft, vandalism, or any cause whatever; and shall hold the District and its authorized representatives harmless from all liability of every kind and nature arising from accident, negligence, or any cause whatever.
8. **Insurance and Bonds:** Before commencing the Work, Contractor shall provide all required certificates of insurance, and payment and performance bonds as evidence thereof.
9. **Prosecution of Work:** If the Contractor should neglect to prosecute the Work properly or fail to perform any provisions of this contract, the District, may, pursuant to the General Conditions and without prejudice to any other remedy it may have, make good such deficiencies and may deduct the cost thereof from the payment then or thereafter due the Contractor.
10. **Authority of Engineer, Project Inspector, and DSA:** Contractor hereby acknowledges that the Engineer, ~~Architect(s), the Project Inspector(s), and the Division of the State Architect~~ have authority to approve and/or stop Work if the Contractor's Work does not comply with the requirements of the Contract Documents, Title 24 of the California Code of Regulations, and all applicable laws. The Contractor shall be liable for any delay caused by its non-compliant Work.
11. **Assignment of Contract:** Neither the Contract, nor any part thereof, nor any moneys due or to become due thereunder, may be assigned by the Contractor without the written approval of the District, nor without the written consent of the Surety on the Contractor's

Performance Bond (the "Surety"), unless the Surety has waived in writing its right to notice of assignment.

12. **Classification of Contractor's License:** Contractor hereby acknowledges that it currently holds valid Type **C-10** Contractor's license(s) issued by the State of California, Contractor's State Licensing Board, in accordance with division 3, chapter 9, of the Business and Professions Code and in the classification called for in the Contract Documents.
13. **Payment of Prevailing Wages:** The Contractor and all Subcontractors under the Contractor shall pay all workers on all Work performed pursuant to this Contract not less than the general prevailing rate of per diem wages and the general prevailing rate for holiday and overtime work as determined by the Director of the Department of Industrial Relations, State of California, for the type of work performed and the locality in which the work is to be performed within the boundaries of the District, pursuant to sections 1770 et seq. of the California Labor Code. ~~{If Project is funded in whole or in part with federal funds, the Contractor and all Subcontractors under the Contractor shall comply with the Davis Bacon Act, applicable reporting requirements, and any other applicable requirements for federal funding. If a conflict exists, the more stringent provision shall control over this Agreement.}~~
14. ~~{Labor Compliance: If the District has adopted a labor compliance program which is applicable to the Project or if the Project is subject to State labor compliance monitored and enforced by the Compliance Monitoring Unit of the Department of Industrial Relations, Contractor specifically acknowledges and understands that it shall perform the Work of this Agreement while complying with all the applicable provisions of the District's labor compliance program or State labor compliance, if applicable, including, without limitation, the requirement that the Contractor and all of its Subcontractors shall timely submit complete and accurate certified payroll records as required by the Contract Documents, or the District cannot issue payment.}~~
15. **Contract Price:** In consideration of the foregoing covenants, promises, and agreements on the part of the Contractor, and the strict and literal fulfillment of each and every covenant, promise, and agreement, and as compensation agreed upon for the Work and construction, erection, and completion as aforesaid, the District covenants, promises, and agrees that it will well and truly pay and cause to be paid to the Contractor in full, and as the full Contract Price and compensation for construction, erection, and completion of the Work hereinabove agreed to be performed by the Contractor, the following price:

Dollars

_____ Dollars
(\$ _____),

in lawful money of the United States, which sum is to be paid according to the schedule provided by the Contractor and accepted by the District and subject to additions and deductions as provided in the Contract. This amount supersedes any previously stated and/or agreed to amount(s).

16. **Severability:** If any term, covenant, condition, or provision in any of the Contract Documents is held by a court of competent jurisdiction to be invalid, void or unenforceable, the remainder of the provisions in the Contract Documents shall remain in full force and effect and shall in no way be affected, impaired, or invalidated thereby.

IN WITNESS WHEREOF, accepted and agreed on the date indicated above:

CONTRACTOR

DISTRICT

MARIN COMMUNITY COLLEGE DISTRICT

By: _____

By: _____

Title: _____

Title: _____

NOTE: If the party executing this Contract is a corporation, a certified copy of the by-laws, or of the resolution of the Board of Directors, authorizing the officers of said corporation to execute the Contract and the bonds required thereby must be attached hereto.

END OF DOCUMENT

1.17 NOTICE TO PROCEED

Dated: _____, 20__

TO: _____
("Contractor")

ADDRESS: _____

PROJECT: _____

PROJECT/CONTRACT NO.: _____ between the Marin Community College District and Contractor ("Contract").

You are notified that the Contract Time under the above Contract will commence to run on _____, 20__. By that date, you are to start performing your obligations under the Contract Documents. In accordance with the Agreement executed by Contractor, the date of completion is _____, 20__.

You must submit the following documents by 5:00 p.m. of the **(TENTH (10th)** calendar day following the date of this Notice to Proceed:

- a. Contractor's preliminary schedule of construction.
- b. Contractor's preliminary schedule of values for all of the Work.
- c. Contractor's preliminary schedule of submittals, including Shop Drawings, Product Data, and Samples submittals
- d. Contractor's Safety Plan specifically adapted for the Project.
- e. A complete subcontractors list, including the name, address, telephone number, facsimile number, California State Contractors License number, classification, and monetary value of all Subcontracts.

Thank you. We look forward to a very successful Project.

MARIN COMMUNITY COLLEGE DISTRICT

BY: _____

NAME: _____

TITLE: _____

END OF DOCUMENT

1.18 PERFORMANCE BOND
(100% of Contract Price)

(Note: Bidders must use this form, NOT a surety company form.)

KNOW ALL PERSONS BY THESE PRESENTS:

WHEREAS, the governing board ("Board") of the Marin Community College District, ("District") and _____ ("Principal") have entered into a contract for the furnishing of all materials and labor, services and transportation, necessary, convenient, and proper to perform the following project:

_____ (Project Name)

("Project" or "Contract") which Contract dated _____, 20____, and all of the Contract Documents attached to or forming a part of the Contract, are hereby referred to and made a part hereof; and

WHEREAS, said Principal is required under the terms of the Contract to furnish a bond for the faithful performance of the Contract.

NOW, THEREFORE, the Principal and _____ ("Surety")

are held and firmly bound unto the Board of the District in the penal sum of

_____ Dollars (\$_____), lawful money of the United States, for the payment of which sum well and truly to be made we bind ourselves, our heirs, executors, administrators, successors, and assigns jointly and severally, firmly by these presents, to:

- Perform all the work required to complete the Project; and
- Pay to the District all damages the District incurs as a result of the Principal's failure to perform all the Work required to complete the Project.

The condition of the obligation is such that, if the above bounden Principal, his or its heirs, executors, administrators, successors, or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions, and agreements in the Contract and any alteration thereof made as therein provided, on his or its part to be kept and performed at the time and in the intent and meaning, including all contractual guarantees and warranties of materials and workmanship, and shall indemnify and save harmless the District, its trustees, officers and agents, as therein stipulated, then this obligation shall become null and void, otherwise it shall be and remain in full force and virtue.

Surety expressly agrees that the District may reject any contractor or subcontractor proposed by Surety to fulfill its obligations in the event of default by the Principal. Surety shall not utilize Principal in completing the Work nor shall Surety accept a Bid from Principal for completion of the Work if the District declares the Principal to be in default and notifies Surety of the District's objection to Principal's further participation in the completion of the Work.

As a condition precedent to the satisfactory completion of the Contract, the above obligation shall hold good for a period equal to the warranty and/or guarantee period of the Contract, during which time Surety's obligation shall continue if Contractor shall fail to make full, complete, and satisfactory repair and replacements and totally protect the District from loss or damage resulting from or caused by

defective materials or faulty workmanship. The obligations of Surety hereunder shall continue so long as any obligation of Contractor remains. Nothing herein shall limit the District's rights or the Contractor or Surety's obligations under the Contract, law or equity, including, but not limited to, California Code of Civil Procedure section 337.15.

The Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration, or addition to the terms of the contract or to the work to be performed thereunder or the specifications accompanying the same shall in any way affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration, or addition to the terms of the Contract or to the work or to the specifications.

IN WITNESS WHEREOF, two (2) identical counterparts of this instrument, each of which shall for all purposes be deemed an original thereof, have been duly executed by the Principal and Surety above named, on the _____ day of _____, 20__.

(Affix Corporate Seal)

Principal

By

Surety

By

Name of California Agent of Surety

Address of California Agent of Surety

Telephone No. of California Agent of Surety

Bidder must attach a Notarial Acknowledgment for all Surety's signatures and a Power of Attorney and Certificate of Authority for Surety. The California Department of Insurance must authorize the Surety to be an admitted surety insurer.

END OF DOCUMENT

1.19 PAYMENT BOND
Contractor's Labor & Material Bond
(100% of Contract Price)

(Note: Bidders must use this form, NOT a surety company form.)

KNOW ALL PERSONS BY THESE PRESENTS:

WHEREAS, the governing board ("Board") of the Marin Community College District, (or "District") and _____, ("Principal") have entered into a contract for the furnishing of all materials and labor, services and transportation, necessary, convenient, and proper to perform the following project:

_____ (Project Name)

("Project" or "Contract") which Contract dated _____, 20____, and all of the Contract Documents attached to or forming a part of the Contract, are hereby referred to and made a part hereof; and

WHEREAS, pursuant to law and the Contract, the Principal is required, before entering upon the performance of the work, to file a good and sufficient bond with the body by which the Contract is awarded in an amount equal to one hundred percent (100%) of the Contract price, to secure the claims to which reference is made in sections 9000 through 9510 and 9550 through 9566 of the Civil Code, and division 2, part 7, of the Labor Code.

NOW, THEREFORE, the Principal and _____ ("Surety")

are held and firmly bound unto all laborers, material men, and other persons referred to in said statutes in the sum of _____ Dollars (\$_____), lawful money of the United States, being a sum not less than the total amount payable by the terms of Contract, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, or assigns, jointly and severally, by these presents.

The condition of this obligation is that if the Principal or any of his or its subcontractors, of the heirs, executors, administrators, successors, or assigns of any, all, or either of them shall fail to pay for any labor, materials, provisions, provender, or other supplies, used in, upon, for or about the performance of the work contracted to be done, or for any work or labor thereon of any kind, or for amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of the Principal or any of his or its subcontractors of any tier under Section 13020 of the Unemployment Insurance Code with respect to such work or labor, that the Surety will pay the same in an amount not exceeding the amount herein above set forth, and also in case suit is brought upon this bond, will pay a reasonable attorney's fee to be awarded and fixed by the Court, and to be taxed as costs and to be included in the judgment therein rendered.

It is hereby expressly stipulated and agreed that this bond shall inure to the benefit of any and all persons, companies, and corporations entitled to file claims under section 9100 of the Civil Code, so as to give a right of action to them or their assigns in any suit brought upon this bond.

Should the condition of this bond be fully performed, then this obligation shall become null and void; otherwise it shall be and remain in full force and affect.

And the Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration, or addition to the terms of Contract or the specifications accompanying the same shall in any manner affect its obligations on this bond, and it does hereby waive notice of any such change, extension, alteration, or addition.

IN WITNESS WHEREOF, two (2) identical counterparts of this instrument, each of which shall for all purposes be deemed an original thereof, have been duly executed by the Principal and Surety above named, on the _____ day of _____, 20____.

(Affix Corporate Seal)

Principal

By

Surety

By

Name of California Agent of Surety

Address of California Agent of Surety

Telephone No. of California Agent of Surety

Bidder must attach a Notarial Acknowledgment for all Surety's signatures and a Power of Attorney and Certificate of Authority for Surety. The California Department of Insurance must authorize the Surety to be an admitted surety insurer.

END OF DOCUMENT

1.20 AGREEMENT AND RELEASE OF ANY AND ALL CLAIMS

THIS AGREEMENT AND RELEASE OF CLAIMS ("Agreement and Release") IS MADE AND ENTERED INTO THIS _____ DAY OF _____, 20__ by and between the MARIN COMMUNITY COLLEGE DISTRICT ("District") and _____ ("Contractor"), whose place of business is _____.

RECITALS:

- 1. District and Contractor entered into PROJECT/CONTRACT NO.: _____ ("Contract" or "Project") in the County of _____, California.
- 2. The Work under the Contract has been completed.

NOW, THEREFORE, it is mutually agreed between District and Contractor as follows:

AGREEMENT

- 3. Contractor will only be assessed liquidated damages as detailed below:

Original Contract Sum \$ _____

Modified Contract Sum \$ _____

Payment to Date \$ _____

Liquidated Damages \$ _____

Payment Due Contractor \$ _____

- 4. Subject to the provisions hereof, District shall forthwith pay to Contractor the undisputed sum of _____ Dollars (\$_____) under the Contract, less any amounts represented by any notice to withhold funds on file with District as of the date of such payment.

5. Contractor acknowledges and hereby agrees that there are no unresolved or outstanding claims in dispute against District arising from the performance of work under the Contract, except for the claims described in Paragraph 6 and continuing obligations described in Paragraph 8. It is the intention of the parties in executing this Agreement and Release that this Agreement and Release shall be effective as a full, final and general release of all claims, demands, actions, causes of action, obligations, costs, expenses, damages, losses and liabilities of Contractor against District, all its respective agents, employees, inspectors, assignees and transferees except for the Disputed Claim is set forth in Paragraph 6 and continuing obligations described in Paragraph 8 hereof.

- 6. The following claims are disputed (hereinafter, the "Disputed Claims") and are specifically excluded from the operation of this Agreement and Release:

<u>Claim No.</u>	<u>Description of Claim</u>	<u>Amount of Claim</u>	<u>Date Claim Submitted</u>
_____	_____	\$ _____	_____

7. Consistent with California Public Contract Code section 7100, Contractor hereby agrees that, in consideration of the payment set forth in Paragraph 4 hereof, Contractor hereby releases and forever discharges District, all its agents, employees, inspectors, assignees, and transferees from any and all liability, claims, demands, actions, or causes of action of whatever kind or nature arising out of or in any way concerned with the Work under the Contract.

8. Guarantees and warranties for the Work, and any other continuing obligation of Contractor, shall remain in full force and effect as specified in the Contract Documents.

9. To the furthest extent permitted by California law, Contractor shall defend, indemnify, and hold harmless the District, its agents, representatives, officers, consultants, employees, trustees, and volunteers (the "indemnified parties") from any and all losses, liabilities, claims, suits, and actions of any kind, nature, and description, including, but not limited to, attorneys' fees and costs, directly or indirectly arising out of, connected with, or resulting from the performance of the Contract unless caused wholly by the sole negligence or willful misconduct of the indemnified parties.

10. Contractor hereby waives the provisions of California Civil Code section 1542 which provides as follows:

A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS WHICH THE CREDITOR DOES NOT KNOW OR SUSPECT TO EXIST IN HIS OR HER FAVOR AT THE TIME OF EXECUTING THE RELEASE, WHICH IF KNOWN BY HIM OR HER MUST HAVE MATERIALLY AFFECTED HIS OR HER SETTLEMENT WITH THE DEBTOR.

11. The provisions of this Agreement and Release are contractual in nature and not mere recitals and shall be considered independent and severable. If any such provision or any part thereof shall be at any time held invalid in whole or in part under any federal, state, county, municipal, or other law, ruling, or regulations, then such provision, or part thereof, shall remain in force and effect to the extent permitted by law, and the remaining provisions of this Agreement and Release shall also remain in full force and effect, and shall be enforceable.

12. All rights of District shall survive completion of the Work or termination of Contract, and execution of this Release.

* * * CAUTION: THIS IS A RELEASE - READ BEFORE EXECUTING * * *

MARIN COMMUNITY COLLEGE DISTRICT

SIGNATURE: _____

PRINT NAME: _____

TITLE: _____

CONTRACTOR: _____

SIGNATURE: _____

PRINT NAME: _____

TITLE: _____

END OF DOCUMENT

1.21 GUARANTEE FORM

_____ ("Contractor") hereby agrees that the _____ ("Work" of Contractor) which Contractor has installed for the Marin Community College District ("District") for the following project:

PROJECT: _____

("Project" or "Contract") has been performed in accordance with the requirements of the Contract Documents and that the Work as installed will fulfill the requirements of the Contract Documents.

The undersigned agrees to repair or replace any or all of such Work that may prove to be defective in workmanship or material together with any other adjacent Work that may be displaced in connection with such replacement within a period of _____ year(s) from the date of completion as defined in Public Contract Code section 7107, subdivision (c), ordinary wear and tear and unusual abuse or neglect excepted. The date of completion is _____, 20____.

In the event of the undersigned's failure to comply with the above-mentioned conditions within a reasonable period of time, as determined by the District, but not later than seven (7) days after being notified in writing by the District, the undersigned authorizes the District to proceed to have said defects repaired and made good at the expense of the undersigned. The undersigned shall pay the costs and charges therefor upon demand.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

Representatives to be contacted for service subject to terms of Contract:

NAME: _____

ADDRESS: _____

PHONE NO.: _____

END OF DOCUMENT

1.22 - GENERAL CONDITIONS

TABLE OF CONTENTS

1. Definitions	2
2. Provisions Required By Law Deemed Inserted.....	3
3. Contract Documents	4
4. Intent of Drawings and Specifications	5
5. Trade Divisions	5
6. Master Mandatory Provisions	6
7. Contractor	6
8. Responsibility of General Contractor	7
9. Subcontractors	8
10. Performance and Payment Bonds	9
11. Insurance	9
12. Codes and Regulations	12
13. Permits and Taxes	12
14. Patents and Royalties	13
15. Safety and Fire Prevention	13
16. Hazardous Materials	15
17. Temporary Facilities	16
18. Signs	17
19. Time	17
20. Project Schedule	17
21. Delays and Time Extensions	18
22. Liquidated Damages	19
23. District's Right To Stop Work; Terminate The Contract	19
24. Assignment of Contract	21
25. Coordination With Other Contracts	21
26. Submittals: Shop Drawings, Cuts and Samples	22
27. Payments.....	22
28. Modifications of Contract	24
29. Indemnity	27
30. Warranty of Title	27
31. Use of Completed Parts of The Work Before Acceptance	27
32. Guarantee & Warranty	28
33. Protection of Work and Property	28
34. Use of Roadways and Walkways	29
35. Materials.....	29
36. Substitutions	29
37. Testing	30
38. Inspection	30
39. Cleanup.....	31
40. Construction Waste Management Requirements	31
41. Instructions and Manuals	35

42. Drawings	35
43. No Discrimination	36
44. Labor Standards	36
45. General Rate of Per Diem Wages	37
46. Record Keeping	37
47. Project Completion	38
48. Resolution of Project Performance Claims	39
49. General Provisions	40

1. DEFINITIONS

Addendum: A written change or revision to the Contract Documents issued to the prospective bidders prior to the time of receiving bids.

Allowance: Stipulated cost to be included in the Base Bid to be used to perform work of unforeseen conditions as determined by and approved by the District.

Alternate: The sum to be added to or deducted from the base Bid if the change in scope of work as described in Alternates is accepted by the District.

Approved: Approved by the District or the District's authorized representative unless otherwise indicated in the Contract Documents.

As Directed: As directed by the District, unless otherwise indicated in the Contract Documents.

As Selected: As selected by the District, unless otherwise indicated in the Contract Documents.

Bid: The properly completed and signed proposal to perform the performance/execution of work for the Project as described in the Contract Documents.

Project Manager: The individual or entity named as such by the District. If no Project Manager is designated for the project, all references to the Project Manager in these Contract Documents shall mean the District and/or its designee or designees.

Contract: The legally binding agreement between the District and the Contractor wherein the Contractor agrees to furnish the labor, materials, equipment, plant and appurtenances required to perform the work described in the Contract Documents and the District agrees to pay the Contractor for such work.

Contract Documents: The Contract Documents are described in the Contract for this Project.

Contractor/Project Manager: The person or entity holding a valid license in the State of California required for performing this Project and who has contracted with the District to perform the performance/execution of work described in the Contract Documents. The term Contractor shall be construed to mean all of the officers, employees, Subcontractors, suppliers, or other persons engaged by the Contractor upon the work of this Project.

1.22 – GENERAL CONDITIONS

District: The District, its Governing Board, authorized officers and employees, and authorized representatives.

DIR: California Department of Industrial Relations which enforces prevailing wage and apprenticeship questions and problems.

DSA: The State of California Division of the State Architect which has the authority to review, approve and inspect the design, alteration and construction of school buildings.

Final Completion: Final Completion is achieved when the Contractor has fully completed all Contract Document requirements, including, but not limited to, all final punch list items, to the District's satisfaction.

Furnish: Purchase and deliver to site of installation.

Governing Board: The Governing Board of the District.

Indicated or As Shown: Shown on drawings and/or as specified.

Inspector: The person engaged by the District to conduct the inspections required by the Education Code and Title 24.

Install: Fix in place, for materials; and fix in place and connect, for equipment.

Modification: An authorized change to the Contract Documents, which may or may not include a change in contract price and/or time.

Project: The total performance/execution of Project Work and activities described in these Contract Documents.

Secure: Obtain.

Subcontractor: A person, firm, or corporation, duly licensed by the State of California, who has a contract with the Contractor to furnish labor, materials and equipment, and/or to install materials and equipment for work in this Contract.

Substantial Completion: Stage or designated portion of a construction project that is sufficiently complete in accordance with a contract for the owner to occupy and/or utilize it for its intended use, without undue interference

2. PROVISIONS REQUIRED BY LAW DEEMED INSERTED

Every provision of law and clause required by law to be inserted in this Contract shall be deemed to be inserted, and this Contract shall be read and enforced as though it were included, and if through mistake or otherwise any provision is not inserted or is not correctly inserted, upon application of either party the

Contract shall be amended to make the insertion or correction. All references to statutes and regulations shall include all amendments, replacements, and enactments on the subject, which are in effect as of the date of this Contract.

3. CONTRACT DOCUMENTS

a. Contents and Precedence

The Contract Documents consist of the executed Contract and all Addenda, all approved change orders, the completed Bid Form, the required Bonds and the Insurance forms, the Notice Inviting Bids, the Instructions to Bidders, the Notice of Award, the Notice to Proceed, the General Conditions, any supplemental Conditions, the Technical Specifications, the Drawings and the completed Bidder's Questionnaire. The Contract Documents are complimentary, and anything required by one shall be as binding as if required by all. In case of conflicts within the Contract Documents, the order of precedence of interpretation shall be as listed above, with the executed Contract and any change order thereto having priority, and subsequent Addenda having priority over prior Addenda only to the extent modified by the subsequent Addenda. In case of conflict within the drawings, larger scale drawings shall govern smaller scale drawings, and written dimensions shall govern over scaled dimensions.

b. Ambiguities, Errors, and Inconsistencies

If, in the opinion of the Contractor, the Project Work details indicated in the specifications or otherwise specified are in conflict with accepted industry standards for quality Project Work and therefore might interfere with its full guarantee of the work involved, the Contractor shall promptly bring this information to the attention of the District for appropriate action before submittal of the bid. Contractor's failure to request clarification or interpretation of an apparent ambiguity, error or inconsistency waives that Contractor's right to thereafter claim any entitlement to additional compensation based upon an ambiguity, inconsistency, or error, which should have been discovered by a reasonably prudent Contractor, subject to the limitations of Public Contract Code §1104. During the Project, should any discrepancy appear or any misunderstanding arise as to the import of anything contained in the Contract Documents, the matter shall be promptly referred to the District, who will issue instructions or corrections.

c. Lines and Planes

All lines and planes appearing on Contractor's drawings to be horizontal or vertical and not explicitly indicated otherwise shall be constructed true and plumb. All lines and planes appearing on Contractor's drawings to intersect at right angles and not explicitly indicated otherwise shall be constructed at true right angles. Where details are indicated covering specific conditions, such details also apply to all similar conditions not specifically indicated.

d. Standards

The specification standards of the various sections of the Specifications shall be the procedural, performance, and material standards of the applicable association publications identified and shall be the required level of installation, materials, workmanship, and performance for the applicable work. Except where a specific date of issue is mentioned, hereinafter, references to specification standards shall mean the edition, including amendments and supplements in effect on the date of the Notice Inviting Bids. Where no standard is identified and a manufacturer is specified, the manufacturer's Specifications are the standards. All standards shall be subordinate to the requirements of the applicable codes and regulations.

e. Reference to the Singular

Wherever in the Specifications an article, device or piece of equipment is referred to in the singular number; such reference shall include as many such items as are shown on drawings or required to complete the installation.

4. INTENT OF DRAWINGS AND SPECIFICATIONS

a. Specifications and floor plans are to be read as an integrated document. The Contractor shall promptly report to the District any ambiguities, discrepancies, or errors which come to the Contractor's attention.

b. Figured dimensions shall be followed in preference to scaled dimensions, and the Contractor shall make all additional measurements necessary for the work and shall be responsible for their accuracy. Before ordering any material or doing any work, each Contractor shall verify all measurements at the Project site and shall be responsible for the correctness of same.

c. It is the intent of the drawings and Specifications to show and describe complete installations. Items shown but not specified, or specified but not shown, shall be included unless specifically omitted.

d. The Specifications and contractor's plans shall be deemed to include and require everything necessary and reasonably incidental to the completion of all work described and indicated on the drawings, whether particularly mentioned or shown, or not.

5. TRADE DIVISIONS

Segregation of the Specifications into the designated trade divisions is only for the purpose of facilitating descriptions and shall not be considered as limiting the work of any subcontract or trade. Subject to other necessary provisions set forth in these Specifications, the terms and conditions of such limitations or inclusions shall lie solely between the Contractor and its Subcontractors. "Scope" as indicated in each section of the Specifications shall serve only as a general guide to what is included in that section. Neither the stated description nor the division of the plans and Specifications to various sections, which is done solely for convenience, shall be deemed to limit the

work required, divide or indicate it by labor jurisdiction or trade practice, or set up any bidding barriers to the various sub-contractors or suppliers.

a. The Contractor shall be responsible for the proper execution of all work required by the Contract Documents and for allocating such portions as the Contractor sees fit to the various Subcontractors, subject to applicable law. The Contractor is cautioned that the various individual sections may not contain all work that the Contractor may wish to allocate to a particular Subcontractor or everything bearing on the work of a particular trade, some of which may appear in other portions of the plans or Specifications.

b. If the Contractor elects to enter into any subcontract for any section of the work the Contractor assumes all responsibility for ascertaining that the Subcontractor for the work is competent, licensed, solvent, thoroughly acquainted with all conditions and legal requirements of the work, has included all materials and appurtenances in connection therewith in the subcontract, and has performed its work in strict compliance with the Contract Documents.

c. It shall be the responsibility of the Contractor to notify each prospective Subcontractor at the time of request for bids of all portions of the Contract Documents, including the General Conditions, Supplementary Conditions and any parts of other sections of Specifications or plans that the Contractor intends to include as part of the subcontract.

6. MASTER MANDATORY PROVISIONS

a. Any material, item, or piece of equipment mentioned, listed or indicated without definition of quality, shall be consistent with the quality of adjacent or related materials, items, or pieces of equipment on the Project and in accordance with best practices.

b. Any method of installation, finish, or workmanship of an operation called for, without definition of standard of workmanship, shall be followed or performed and finished in accordance with good practice and consistent with adjacent or related installations on the Project.

c. Any necessary material, item, piece of equipment or operation not called for but reasonably implied as necessary for proper completion of the work, shall be furnished, installed or performed and finished; and shall be consistent with adjacent or related materials, items, or pieces of equipment on the Project, and in accordance with best practices.

d. Names or numbered products are to be used according to the manufacturers' directions or recommendations unless otherwise specified.

7. CONTRACTOR

a. The Contractor shall perform all the work and activities required by the Contract Documents and furnish all labor, materials, equipment, tools and appurtenances necessary to perform the work and complete it to the District's satisfaction within the time specified. The Contractor shall at all times perform the work of this Contract in a competent and workmanlike manner and, if not

specifically stated, accomplish the work according to the best standards of electrical/controls practice. The Contractor in no way is relieved of any responsibility by the activities of the District, Inspector or DSA in the performance of such duties, as applicable.

b. Contractor shall have a valid and proper State Contractor's License "**C-10 Electrical Contractor**" License.

c. Contractor and any/all subcontractors shall be registered with the California Department of Industrial Relations.

d. Contractor shall provide the District Representative with contact information including phone numbers for the both the Project manager and alternate.

e. The experience of the contractor to call for the highest level of quality in electrical/lighting control services compatible with the standards, practices and modern techniques accepted by the industry. All electrical/lighting control services shall be performed by experienced and qualified person(s) who are directly employed and supervised by the contractor. Such Contractor shall have at least (2) years of relevant experience in electrical/lighting control projects similar in size to those for which these Special Provisions apply.

f. The Contractor shall employ a full-time competent superintendent and necessary assistants who shall have complete authority to act for the Contractor on all matters pertaining to the work. The superintendent shall be satisfactory to the District and, if not satisfactory, shall be replaced by the Contractor with one that is acceptable. Also, the superintendent shall not be changed without the written consent of the District unless the superintendent ceases to be employed by the Contractor.

g. Contractor shall make the layout of lines and elevations and shall be responsible for the accuracy of both the Contractor's and the Subcontractors' work resulting therefrom. All dimensions affecting proper fabrication and installation of all Contract work must be verified by the Contractor prior to fabrication and installation by taking field measurements of the true conditions. The Contractor shall take, and assist Subcontractors in taking, all field dimensions required in performance of the work, and shall verify all dimensions and conditions on the site. If there are any discrepancies between dimensions in drawings and existing conditions which will affect the work, the Contractor shall promptly bring such discrepancies to the attention of the District for adjustment before proceeding with the work. Contractor shall be responsible for the proper fitting of all work and for the coordination of all trades, Subcontractors and persons engaged upon this Contract.

h. Contractor shall do all cutting, fitting, or patching of Contractor's work that may be required to make its several parts come together properly and fit it to receive or be received by work of other contractors as shown, or reasonably implied by, the drawings and Specifications for the completed work. Any cost incurred by the District due to defective or ill -timed work shall be borne by the Contractor.

8. RESPONSIBILITY OF CONTRACTOR

a. Contractor shall be held strictly responsible for the proper performance of all work covered by the Contract Documents, including the work performed by Subcontractors. All work performed under this Contract shall comply in every respect to the rules and regulations of all agencies having jurisdiction over the Project or any part thereof.

~~b. Contractor shall submit Verified Reports as defined in §§4 336 and 4 343 (c), Group 1, Chapter 4, Part I, Title 24, California Code of Regulations (“CCR”). The duties of the Contractor are as defined in §4 343, Group 1, Chapter 4, Part I, Title 24, of the CCR. Contractor shall keep and make available a copy of Title 24 of the CCR at the job site at all times.~~

c. Where, because of short supply, any items of fabricated materials and/or equipment, indicated on drawings or specified, are unobtainable and it becomes necessary, with the consent of the District, to substitute equivalent items differing in details or design, the Contractor shall submit complete drawings and details indicating the necessary modifications of the work. This provision shall be governed by the terms of the General Conditions regarding Submittals: Shop Drawings, Cuts and Samples.

d. With respect to work performed at and near a school site, Contractor shall at all times take all appropriate measures to ensure the security and safety of students and staff, including, but not limited to, ensuring that all of Contractor’s employees, Subcontractors, and suppliers entering school property strictly adhere to all applicable District policies and procedures, e.g., sign-in requirements, visitor badges, and access limitations.

9. SUBCONTRACTORS

a. Nothing contained in the Contract Documents shall create any contractual relationship between any Subcontractor and the District. The District shall be deemed to be the third party beneficiary of the contract between the Contractor and each Subcontractor. If the Contractor does not specify a Subcontractor for any portion of the work to be performed under this Contract, as required by law, Contractor shall perform that portion of the work with its own forces. The Contractor shall not substitute any other person or firm as a Subcontractor for those listed in the bid submitted by the Contractor, without the written approval of the District and in conformance with the requirements of the Public Contract Code. The District reserves the right of approval of all Subcontractors proposed for use on this Project, and to this end, may require financial, performance, and such additional information as is needed to secure this approval. If a Subcontractor is not approved, the Contractor shall promptly submit another firm of the same trade for approval.

b. The Contractor shall insert appropriate provisions in all subcontracts pertaining to work on this Project requiring the Subcontractors to be bound by all applicable terms of the Contract Documents. The Contractor shall be as fully responsible for the acts and omissions of the

Subcontractors, and of persons either directly or indirectly employed by them, as the Contractor is for the acts and omissions of persons directly employed by the Contractor.

10. PERFORMANCE AND PAYMENT BONDS

a. As directed in the Notice of Award, the Contractor shall file with the District the following bonds, using the bond forms provided with these Contract Documents:

1) A corporate surety bond, in a sum not less than 100 percent of the amount of the Contract, to guarantee the faithful performance of the Contract.

2) A corporate surety bond, in a sum not less than 100 percent of the amount of the Contract, to guarantee the payment of wages for services engaged and of bills contracted for materials, supplies, and equipment used in the performance of the Contract.

b. Corporate sureties on these bonds and on bonds accompanying bids must be admitted sureties as defined by law, legally authorized to engage in the business of furnishing surety bonds in the State of California. All sureties and bond forms must be satisfactory to the District. Failure to submit the required bonds within the time specified by the Notice of Award, using the forms provided by the District, may result in cancellation of the award of Contract and forfeiture of the Bid Bond.

c. The amount of the Contract, as used to determine the amounts of the bonds, shall be the total amount fixed in the Contractor's proposal for the performance of the required work.

d. During the period covered by the Contract, if any of the sureties upon the bonds shall become insolvent or unable, in the opinion of the District, to pay promptly the amount of such bonds to the extent to which surety might be liable, the Contractor, within thirty (30) days after notice given by the District to the Contractor, shall provide supplemental bonds or otherwise substitute another and sufficient surety approved by the District in place of the surety becoming insolvent or unable to pay. If the Contractor fails within such thirty (30) day period to substitute another and sufficient surety, the Contractor shall, if the District so elects, be deemed to be in default in the performance of its obligations hereunder and upon the bid bond, and the District, in addition to any and all other remedies, may terminate the Contract or bring any proper suit or other proceedings against the Contractor and the sureties or any of them, or may deduct from any monies then due or which thereafter may become due the Contractor under the Contract, the amount for which the surety, insolvent or unable to pay, shall have been liable on the bonds, and the monies so deducted shall be held by the District as collateral security for the performance of the conditions of the bonds.

11. INSURANCE

a. Contractor shall obtain the following insurance from a company or companies acceptable to District. All required insurance must be written by a company licensed to do business in the State of California at the time the policy is issued. All required insurance shall be equal to or exceed an A VIII rating as listed in Best's Insurance Guides' latest edition. On a case-by-case basis, District may

accept insurance written on a company listed on the State of California Department of Insurance List of Eligible Surplus Lines (“LESLI List”) with a rating of A VIII or above as listed in Best’s Insurance Guides’ latest edition. Required documentation of such insurance shall be furnished to the District at the time stated in the Notice of Award. Contractor shall not commence work nor shall it allow its employees or Subcontractors or anyone to commence work until all insurance required hereunder has been submitted and approved and a notice to proceed has been issued.

b. Contractor shall take out and maintain at all times during the life of this Contract, up to the date of acceptance of the work by the District, the following policies of insurance:

1) Public Liability Insurance: Personal injury and replacement value property damage insurance for all activities of the Contractor and its Subcontractors arising out of or in connection with this Contract, written on a comprehensive general liability form including contractor's protected coverage, blanket contractual, completed operations, vehicle coverage and employer's non-ownership liability coverage, in an amount no less than \$2,000,000 combined single limit personal injury and property damage for each occurrence, and a general aggregate limit which applies either separately or specifically to this Contract and is twice the required occurrence limit., i.e., \$4,000,000.

2) ~~Builders' Risk Insurance: Contractor shall procure and maintain builders' risk insurance (all risk coverage) for an amount equal to one hundred percent (100%) of the Contract sum for the benefit of the District, and the Contractor and Subcontractors as their interest may appear. In projects involving no structural change or building construction, this requirement may be waived in writing at the District's sole option.~~

These policies shall include the following coverage:

1) The inclusion of more than one insured shall not operate to impair the rights of one insured against another insured and the coverage's afforded shall apply as though separate policies have been issued to each insured.

2) This policy does not exclude explosion, collapse, underground excavation hazard, or removal of lateral support.

c. Endorsements:

1) The Public Liability Policy specified above shall be endorsed with the following specific language:

“The Marin Community College District is named as additional insured for all liability arising out of the operations by or on behalf of the named insured, and this policy protects the additional insured, its officers, agents and employees against liability for bodily injuries, death or property damage or destruction arising in any respect directly or indirectly in the performance of the Contract.”

2) The certificates must state that the insurance is under an occurrence based, and not a claims-made, policy (policies). Both the Public Liability Policy and the Builders' Risk Policy specified above shall be endorsed with the following specific language:

i. The insurance provided herein is primary and no insurance held or owned by the District shall be called upon to contribute to a loss.

ii. Coverage provided by this policy shall not be reduced or canceled without thirty (30) days written notice given to the District by certified mail.

d. Documentation:

Within ten (10) days following issuance of the Notice of Award of the Contract, the following documentation of insurance shall be submitted to District for approval prior to issuance of the Notice to Proceed: signed certificates of insurance showing the limits of insurance provided and copies of specific endorsements for each policy. Certified copies of all policies shall be provided to the District upon request. If Contractor fails to submit the required documentation for all coverage required by this Contract within ten (10) calendar days following the issuance of the Notice of Award, the District may acting in its sole discretion, rescind the Notice of Award and the Contract, and the Contractor shall forfeit its bid security.

e. If the Contractor fails to maintain such insurance, the District may take out such insurance to cover any damages for which the District might be held liable on account of the Contractor's failure to pay such damages, and deduct and retain the amount of the premiums from any sums due the Contractor under the Contract.

f. Workers' Compensation Insurance:

1) Within ten (10) days following issuance of the Notice of Award of the Contract, the Contractor shall furnish to the District satisfactory proof that the Contractor and all Subcontractors it intends to employ, have procured, for the period covered by the proposed Contract, full Workers' Compensation insurance and employer's liability with limits of at least \$1,000,000 with an insurance carrier satisfactory to the District for all persons whom they may employ in carrying out the work contemplated under this Contract in accordance with the Workers' Compensation Insurance and Safety Act, approved May 26, 1913, and all acts amendatory or supplemental thereto (the "Act"). Such insurance shall be maintained in full force and effect during the period covered by the Contract. In the event the Contractor is self-insured, Contractor shall furnish a Certificate of Permission to Self-Insure, signed by the Department of Industrial Relations Administration of Self-Insurance, Sacramento, California.

2) If the Contractor fails to maintain such insurance, the District may take out compensation insurance to cover any compensation which the District might be liable to pay under the provisions of the Act, by reason of any employee of the Contractor being injured or killed, and deduct and retain the amount of the premiums for such insurance from any

sums due the Contractor under the Contract, or otherwise recover that amount from the Contractor or the Surety.

3) If an injury occurs to any employee of the Contractor for which the employee, or the employee's dependents in the event of the employee's death, is entitled to compensation from the District under the provisions of the Act, or for which compensation is claimed from the District, the District may retain from the sums due the Contractor under this Contract, an amount sufficient to cover such compensation, as fixed by the Act, until such compensation is paid, or until it is determined that no compensation is due, and if the District is compelled to pay such compensation, it will deduct and retain from such sums the amount so paid, or otherwise recover this sum from the Contractor or its Surety.

4) The policies represented by the certificates must contain the provision (and the certificates must so state) that the insurance cannot be canceled until thirty (30) days after written notice of intended cancellation has been given to the District by certified mail.

12. CODES AND REGULATIONS

a. The Contractor shall be knowledgeable regarding and shall comply with applicable portions of California Code of Regulations Title 24, the applicable Building Code, and all other codes, ordinances, regulations or orders of properly constituted authority having jurisdiction over the work of this Project. The Contractor shall examine the Contract Documents for compliance with these codes and regulations, and shall promptly notify the District of any discrepancies.

b. All work and materials shall be in full accordance with the latest rules and regulations of the Safety Orders of the Division of Industrial Safety, and the applicable State laws and/or regulations. Nothing in the Project plans or Specifications is to be construed to permit work not conforming to the applicable Codes. Buildings and/or all other services covered by this Contract shall meet all the regulations for access by the physically handicapped as administered by the Division of the State Architect, and as may be required by federal or state law.

c. If the work under this Contract is for the construction of a school building as defined by the Education Code, then the following provisions shall apply to the Contract:

1) All work shall be executed in accordance with the current requirements of the Education Code and California Code of Regulations: Title 24 and Title 19. No deviations from the Contractor's approved plans and Specifications will be permitted except upon a Change Order or Addenda, signed and approved by the District.

13. PERMITS AND TAXES

a. The Contractor shall obtain and pay for all permits, fees and licenses that are required in order to perform the work under this Contract. The District shall pay connection charges and meter costs for new permanent utilities required by these Contract Documents. The Contractor shall notify

District sufficiently in advance to submit requests for service to the appropriate utility companies so as to insure connections or installation of utility services in accordance with the Project schedule.

b. The Contractor shall pay for all taxes on materials and equipment. The District is exempt from Federal Excise Tax. Contractor shall not pay Federal Excise Tax on any item in this Contract.

14. PATENTS AND ROYALTIES

All fees or claims for patents, royalties or licenses on materials, equipment or processes used in the performance of work on this Project shall be included in the amount of the Bid. The Contractor shall indemnify, defend, and hold harmless the District, its Governing Board and their officers and employees, from all claims or liability, including costs and expenses, which may arise from the use on this Project of any patented or copyrighted materials, equipment, or processes.

15. SAFETY AND FIRE PREVENTION

a. Prior to commencement of the Work at the site, the Contractor shall prepare and submit to the Maintenance Director, for review, a written safety plan. The Contractor shall revise the safety plan as necessary to obtain the Maintenance Director's acceptance of the plan for the plan for record purposes only. The Contractor shall be solely responsible for initiating, maintaining and supervising all safety programs required by applicable law, ordinance, regulation or governmental orders in connection with the performance of the Contract, or otherwise required by the type or nature of the Work. The Contractor's safety program shall include all actions and programs necessary for compliance with California or federally statutorily mandated workplace safety programs, including without limitation, compliance with the California Drug Free Workplace Act of 1990 (California Government Code 8350 et seq.) Without limiting or relieving the Contractor of its obligations hereunder, the Contractor shall require that it's Subcontractor similarly initiate and maintain all appropriate or required safety programs.

b. The Contractor shall be solely responsible for initiating and maintaining reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to: (i) employees on the Work and other persons who may be affected thereby; (ii) the Work and materials and equipment to control of the Contractor or the Contractor's Subcontractors or Sub-subcontractors; and (iii) other property or items at the site of the Work, or adjacent thereto, such as buildings, trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of performance of the project.

c. **Safety Signs, Barricades.** The Contractor shall erect and maintain, as required by existing conditions and conditions resulting from performance of the Contract, reasonable safeguards for safety and protection of property and persons, including, without limitation, posting danger signs and other warnings against hazards, promulgating safety regulation and notifying owners and users of adjacent site and utilities.

d. **Safety Notices.** The Contractor shall erect and maintain, as required by existing conditions and conditions resulting from performance of the Contract, reasonable safeguards for safety and

protection of property and persons, including, without limitation, posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent sites and utilities.

e. **Safety Coordinator.** The Contractor shall designate a responsible member of the Contractor's organization at the Site whose duty shall be the prevention of accidents and the implementation and maintenance safety precautions and programs. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the District's Inspector, Grounds Supervisor or Maintenance Manager.

f. **Emergencies.** In an emergency affecting safety of persons or property, the Contractor shall act, to prevent threatened damage, injury or loss.

g. The Contractor, Subcontractors and all of their agents and employees shall fully comply with all of the provisions and requirements of CAL/OSHA, Title 8, California Code of Regulations and all other safety codes applicable to the Project. The Contractor shall take thorough precautions at all times for the protection of persons and property, and shall be liable for all damages to persons or property, either on or off the site, which occur as a result of Contractor's prosecution of the work. The Contractor shall obtain permits for, install and maintain in safe condition barricades, walkways, fences, railings, and whatever other safeguards that may be necessary to protect persons and property from damage as a result of the performance to completion under this Contract.

h. Contractor is required to ensure Safety Data Sheets ("SDS") are available in a readily accessible place at the work site for any material requiring an SDS pursuant to the federal "Hazard Communication" standard or employee "right to know" laws. Contractor is also required to ensure proper labeling on materials brought on the job site such that any person working with the material or within the general area of the material is informed of the hazards of the material and follows proper handling and protections procedures. Copies of the SDS's shall also be submitted directly to the District.

i. Contractor shall not endanger any work by cutting, excavating, or otherwise altering the work and shall not cut or alter the work of any other Contractor except with the written consent of the District, nor overload any new or existing structures by the placing or storage of materials, equipment, or other items thereon, and if necessary, shall provide calculations proving the safety in so doing.

j. If it is necessary to work at night, or where daylight is obscured, the Contractor shall provide and maintain lighting of adequate level to properly prosecute the work, to permit the thorough inspection of same, and to ensure the safety of workers and others.

k. Contractor shall take extraordinary care to prevent fires and keep all flammable materials and oily rags in tightly closed metal containers. Contractor shall exercise particular care when welding or cutting, and with regard to the disposition of waste materials, the nature and quantity of which might create or increase a fire hazard.

16. HAZARDOUS MATERIALS

Unless otherwise specified, this Contract does not include the removal, handling, or disturbance of any hazardous substances or materials encountered in Performing Arts Building. If such substances or materials are encountered, work shall cease in that area and the District shall be promptly notified to take appropriate action for removal or otherwise abating the condition in accordance with current regulations applicable to the District.

a. General

- 1) No asbestos, asbestos-containing products or other hazardous materials shall be used in this Project or in any tools, devices, clothing or equipment used to further this Project.
- 2) Asbestos and/or asbestos containing products shall be defined as all items containing but not limited to chrysotile, crocidolite, amosite, anthophyllite, tremo-lite or actinolite.
- 3) Any or all material containing greater than one tenth of one percent (>.1%) asbestos shall be defined as asbestos-containing material.
- 4) Any disputes involving the question of whether or not material contains asbestos shall be settled by electron microscopy; the cost of any such tests shall be paid by the Contractor.
- 5) All work or materials found to contain asbestos or work or material installed with asbestos containing equipment will be immediately rejected and this work shall be removed by the Contractor at no additional cost to the District.

b. Decontamination and Removal of hazardous material from prior work

- 1) Decontamination and removal of work found to contain asbestos or work installed with asbestos containing equipment shall be done only under the supervision of a qualified consultant, knowledgeable in the field of asbestos abatement and accredited by the Environmental Protection Agency ("EPA").
- 2) The asbestos removal contractor shall be an EPA-accredited contractor qualified in the removal of asbestos subject to the approval of the District.
- 3) The asbestos consultant shall be chosen and approved by the District, which shall have sole discretion and final determination in this matter.
- 4) The work will not be accepted until asbestos contamination is reduced to levels deemed acceptable by the asbestos consultant.

c. Hold Harmless

1) Interface of work under this Contract with work containing asbestos shall be executed by the Contractor at Contractor's risk and at Contractor's discretion with full knowledge of the currently accepted standards, hazards, risks and liabilities associated with asbestos work and asbestos containing products. By execution of this Contract the Contractor acknowledges the above and agrees to hold harmless, as set forth in the indemnity provisions of this Contract, the District, its employees, agents and assigns for all asbestos liability which may be associated with this work and agrees to instruct Contractor's employees with respect to the above mentioned standards, hazards, risks and liabilities.

2) The Contractor shall, prior to commencement of this work, provide a duly signed and notarized affidavit that Contractor has instructed Contractor's employees and agents with respect to the above mentioned standards, hazards, risks and liabilities and the contents and requirements of this portion of the Contract Documents.

d. Certification

The Contractor agrees that materials containing asbestos or other hazardous materials as defined in Federal and State law shall not be used in this Project.

17. TEMPORARY FACILITIES

a. The Contractor shall obtain permits for, install and maintain in safe condition all scaffolds, hoisting equipment, barricades, walkways, or other temporary structures that may be required to accomplish the work. Such structures shall be adequate for the intended use and capable of safely accepting all loads that may be imposed upon them. They shall be installed and maintained in accordance with all applicable codes and regulations.

b. The Contractor shall provide and maintain temporary heat from an approved source whenever in the course of the work it may become necessary for curing, drying or warming spaces as may be required for the installation of materials or finishes. The Contractor shall provide and maintain any and all facilities that may be required for dewatering in order that work may proceed on the Project. If it is necessary for dewatering to occur continually, the Contractor shall have on hand whatever spare parts or equipment that may be required to avoid interruption of service or work.

c. The Contractor shall promptly remove all such temporary facilities when they are no longer needed for the work or on completion of the Project. The Contractor shall repair any damage to premises or property which resulted from the performance/execution of the electrical/lighting control Project, use, or removal of temporary facilities and shall restore said premises and property to their original condition.

d. See Supplementary General Conditions and/or specifications for requirements concerning temporary sanitary facilities and utilities.

18. SIGNS

No signs may be displayed on or about the District's property (except those which may be required by law) without the District's prior written approval of size, content and location. Any signs required by the District will be designated in the Supplementary General Conditions.

19. TIME

a. The Contractor shall commence the work on the date indicated in the Notice to Proceed. Time is of the essence regarding the Contract work, and the Contractor shall prosecute the work diligently and regularly at such a rate of progress to ensure completion of this Project within, or sooner than, the time specified.

b. The Contractors and Subcontractors shall investigate and become aware of the amount of time required for the delivery of all equipment and materials required to perform the work under this Contract, and no extension of time shall be granted due to failure to order the equipment and materials sufficiently before their incorporation into the work so as to avoid delay to the Project.

c. The Contractors and Subcontractors shall provide and maintain enough manpower, materials and equipment to ensure a rate of project progress that will complete the Project within or sooner than the time specified and according to the schedule of work. If, in the District's opinion, the Contractor and/or Subcontractors are not prosecuting the work at a sufficient rate of progress to meet the Project schedule, the District may direct the Contractor to provide additional manpower, materials or equipment, or to work additional hours, holidays or weekends without additional cost to the District until the work is progressing in a manner satisfactory to the District. Failure to prosecute the work in a timely manner and according to the Project schedule is considered a breach of Contract shall be cause for termination of the Contract.

20. PROJECT SCHEDULE

a. Within fifteen (15) calendar days after the Award of Contract, the Contractor shall prepare and submit to the District an as-planned performance/execution schedule showing in detail how the performance and execution plans to prosecute the work within the time set for Final Completion. The schedule shall include the work of all trades necessary for performance and execution of the Project, and shall be sufficiently complete and comprehensive to enable progress to be monitored on a day-by-day basis. The information for each activity shall include at a minimum the activity description, duration, start date and completion date.

b. The Contractor shall take care in the preparation of the schedule to ensure that it represents an accurate and efficient plan for accomplishing the work. If the Project is more than one week behind schedule, it must be promptly revised showing how the Contractor plans to complete the work, but in no case shall it show a completion date later than that required by the Contract, unless a time extension has been granted. The current schedule shall be kept posted in the Contractor's project office on site.

c. The Contractor shall be responsible for the coordination of all work necessary and pertaining to the project accomplishment whether actually a part of this Contract or attendant thereto. The Contractor shall notify the District and various utility companies, as far as possible in advance of their required work, in order that work schedules may be developed for all concerned, which will permit the most effective accomplishment of the entire Project.

21. DELAYS AND TIME EXTENSIONS

a. The Contractor may be granted a time extension if the Contractor encounters an unavoidable delay of the work due to causes completely beyond the Contractor's control and which the Contractor could not have avoided by the exercise of reasonable care, prudence, foresight and diligence. Causes for which a claim for extension of time may be made include: acts of the public enemy, acts of another contractor in the performance of another contract with the District, priority of a governmental agency for materials or equipment, fire, flood, violent wind storm, epidemic, quarantine restriction, strike, freight embargo, or weather of an unusually severe nature. The Contractor will not be granted time extensions for weather conditions which are normal for the location of the Project, according to the U. S. Weather Bureau Records.

b. A request for extension of time and compensation related thereto shall be made in writing to the District within ten (10) calendar days of the date the delay is encountered, or shall be deemed waived. The request shall include a detailed description of the reasons for the delay and corrective measures by the Contractor. The request shall be accompanied by evidence that the insurance policies required by the Contract shall be in effect during the requested additional time period. In order for the District to consider a request for time extension, the Contractor must prove that the reasons stated for a delay actually caused a delay in portions of the work which will result in completion beyond the date specified in the Contract. The Contractor may be granted a time extension for a significant change in the scope of work which request for extension of time shall be included in a Contract modification proposal.

c. No damages or compensation or any kind shall be paid to a Contractor because of delays in the progress of work, whether such delays be avoidable or unavoidable, that are not the responsibility of District. District's liability to Contractor for delays for which District is responsible shall be limited to an extension of time unless such delays were unreasonable under the circumstances involved and were not within the contemplation of the parties when the Contract was awarded. The Contractor shall provide to the District the actual substantiated costs to Contractor for which the Contractor may claim damages from District. Such costs, if any, shall be directly related to the Project, and shall not include costs that would be borne by the Contractor in the regular course of business, including, but not limited to, office overhead and ongoing insurance costs. Delay damages shall not include Contractor or Subcontractor markup for overhead and profit, but only actual, documented, and direct actual costs. The District shall not be liable for any damages which the Contractor could have avoided by any reasonable means including, but not limited to, the judicious handling of forces or equipment.

d. The granting of an extension of time because of unavoidable delays shall in no way operate as a waiver on the part of the District of the right to collect liquidated damages for other delays or of any other rights to which the District is entitled.

22. LIQUIDATED DAMAGES

a. Should the Contractor fail to achieve Final Completion of this Contract within the time fixed for Final Completion, together with extensions granted by the District for unavoidable delays, Contractor shall become liable to the District in the amount specified in the Contract per calendar day for each day the Contract remains uncompleted beyond the time for Final Completion, as liquidated damages and not as a penalty. Contractor may also be assessed liquidated damages for failure to meet milestones specified in the Contract Documents, regardless of impact on overall Project completion. Contractor shall not be charged with liquidated damages when the delay in completion of the work beyond the time for Final Completion is due to acts of the District. It is expressly stipulated and agreed by Contractor and District that it would be impractical and extremely difficult to fix the actual amount of damages.

b. Any money due or to become due the Contractor may be retained to cover liquidated damages. Should such money not be sufficient to cover said liquidated damages, the District shall have the right to recover the balance from the Contractor or Contractor's sureties.

c. Should the District authorize suspension of the work for any cause, the time work is suspended will be added to the time for completion. Suspension of the work by the District shall not be a waiver of the right to claim liquidated damages as set forth in this section.

d. The assessment of Liquidated Damages does not otherwise limit the right of the District to claim a loss or damages incurred by the District for reasons other than delay (e.g. damages due to defective work).

23. DISTRICT'S RIGHT TO STOP WORK; TERMINATION OF SUSPENSION OF THE CONTRACT

a. District's Right to Stop Work:

In addition to or as an alternative to any and all other remedies available to the District, if the Contractor fails to correct work which is not performed in accordance with the Contract Documents, or if the Contractor persistently fails to perform the work in accordance with the Contract Documents, the District may by written order direct the Contractor to stop the work, or any portion thereof, until the cause for such order has been eliminated to the satisfaction of the District. However, the right of the District to stop the work shall not give rise to a duty on the part of the District to exercise this right for the benefit of the Contractor or any other person or entity, and the failure of the District to do so shall not be raised as a defense to the Contractor's failure to perform the work in accordance with the Contract Documents.

b. Termination for Cause:

1) If the Contractor refuses or fails to furnish sufficient materials, work force, equipment, and appurtenances to properly prosecute the work in a timely manner, or if Contractor refuses or fails to comply with any provisions of the Contract Documents, or if Contractor should file a bankruptcy petition or make a general assignment for the benefit of Contractor's creditors or if a receiver should be appointed on account of Contractor's insolvency, then the District may give the Contractor and Contractor's Surety written notice of intention to terminate the Contract. Unless within seven (7) calendar days after the serving of such notice upon the Contractor and Contractor's Surety such violation shall cease and arrangements for correction of such conditions shall be made satisfactory to the District, the Contract shall cease and terminate. In the event of such termination, the District shall immediately serve written notice thereof upon the Contractor and Contractor's Surety.

2) In the event of termination for cause, in addition to all remedies available to the District, the Contractor's Surety shall have the right to take over and perform the Contract; provided, however, that if the Surety does not commence performance within five (5) calendar days from the date issuance of such notice of termination, the District may take over the work and prosecute the same to completion by letting another Contract, or by any other method that the District deems advisable. The Contractor and Contractor's Surety shall be liable for any excess cost occasioned the District thereby, and in any such event the District may take possession of such materials, equipment, and other property belonging to the Contractor as may be on the site and use same in completing the work.

c. Termination of Suspension for Convenience:

The District reserves the right, in its sole discretion, to terminate or suspend all or part of the Contract for convenience, following three (3) days written notice to the Contractor. In the event of termination or suspension for convenience, Contractor shall have no claims against the District, except:

1) The actual cost of labor, materials and services provided pursuant to the Contract, and which have not yet been paid for, as documented by timesheets, invoices, receipts and the like; and

2) Five percent (5%) of the total cost of the work performed as of the date of notice of termination or five percent (5%) of the value of the work yet to be completed, whichever is less. The parties agree that this amount shall constitute full and fair compensation for all Contractor's lost profits and other damages resulting from the termination of suspension for convenience.

24. ASSIGNMENT OF CONTRACT

The Contractor may not assign or delegate all or any portion of this Contract without the written consent of the District and no such consent shall be given which would relieve the Contractor or its Surety of their responsibilities under the Contract. The Contractor may assign, without liability to the District, monies due the Contractor under the Contract to banks, trust companies or other financial institutions provided written notice thereof is promptly delivered to the District. Assignment of monies earned by the Contractor shall be subject to the same retention as other payments made to Contractor, and shall also be subject to setoffs and back charges as provided by this Contract.

25. COORDINATION WITH OTHER CONTRACTS

a. The District reserves the right to do other work or award other contracts in connection with this Project. By entering into this Contract, Contractor acknowledges that there may be other contractors on or adjacent to the Project site whose work must be coordinated with that of its own. Contractor expressly warrants and agrees that it will cooperate with other contractors and will do nothing to delay, hinder, or interface with the work of other contractors, or that of the District. Contractor also expressly agrees that in the event its work is hindered, delayed, interfered with, or otherwise affected by a separate contractor, its sole remedy will be direct action against the separate contractor. To the extent allowed by law, the Contractor expressly waives any remedy against the District on account of delay, hindrance, interference or other such events caused by a separate contractor.

b. If any part of this Contractor's work depends upon the work of a separate contractor, Contractor shall inspect such other work and promptly report in writing to the District any defects in such other work that render it unsuitable to receive the work of Contractor. Failure of the Contractor to so inspect and report shall constitute an acceptance of the other contractor's work, except as to defects which the Contractor could not have detected through the reasonable inspection of the other contractor's work prior to execution of Contractor's work.

c. If Contractor is aware of a current or potential conflict between Contractor's work and the work of another contractor on the site, and is unable to informally resolve the conflict directly with the contractor, Contractor shall promptly provide written notice to the District and the other contractor, specifying the nature of the conflict, the date upon which the conflict arose, and the steps taken to attempt to resolve the conflict.

d. If, through Contractor's negligence, any other contractor or subcontractor shall suffer loss or damage to the work, Contractor shall make reasonable effort to settle with such other contractor and subcontractor by agreement or arbitration. If such other contractor or subcontractor shall assert any claim against the District, on account of any damage alleged to have been so sustained, the District shall notify the Contractor, who shall defend such proceedings at Contractor's own expense and save harmless and indemnify the District any such claim.

26. SUBMITTALS:

- a. In addition to information furnished as common practice, submittals shall contain the Project name and location, Contractor's name and address, Subcontractor's or supplier's name and address, date of submittal and any revisions, and reference to appropriate specification section, and/or drawing and detail numbers. The Contractor and/or the Subcontractors shall verify in the field all dimensions and relationships to adjacent work necessary to ensure the proper fit of the items submitted. If necessary, the Contractor make any corrections required and resubmit with all due haste in the same number as initially required.
- b. Review of submittals by the District shall not relieve the Contractor from complying with the requirements of the Contract Documents.
- c. Any materials or equipment installed without approval shall be at the Contractor's own risk, and Contractor may be required to remove any such materials or equipment and install the specified items at Contractor's own cost, including repairs to adjacent work.

27. PAYMENTS

a. Cost Breakdown:

Prior to submitting Contractor's first request for payment, the Contractor shall prepare and submit to the District a cost breakdown (schedule of values) showing the major work items for each trade or operation required in completion of the Project. The work items shall be sufficiently detailed to enable the District to accurately evaluate the completion percentages requested by the Contractor. The cost for each work item shall include overhead and profit. The total of all work item costs shall equal the amount of the Contract.

b. Scope of Payment:

Payment to the Contractor at the unit price or other price fixed in the Contract for performing the work required under any item or at the lump sum price fixed in the Contract for performing all the work required under the Contract, shall be full compensation for furnishing all labor, materials, equipment and tools necessary to the work, and for performing and completing, in accordance with the Specifications, all work required under the item or under the Contract, and for all expense incurred by the Contractor for any purpose in connection with the performance and completion of said work.

c. Progress Payments:

The Contractor will, on or about the last day of each month, make an estimate of the value of the work completed by Contractor in the performance of the Contract. These estimates shall be subject to the review and approval of the District. The first such estimate will be of the value of the work completed after the Contractor commenced the performance of the Contract, and every subsequent estimate, except the final estimate, will be of the value of the work completed since the

immediately preceding estimate. Such estimates will be based on labor, materials and equipment incorporated into the work, and items of materials and equipment delivered to the Project. The Contractor shall be responsible for the security and protection of such materials and equipment delivered to the Project and not incorporated in the work. Within thirty (30) calendar days after the approval of each estimate for progress payment, the District will pay to the Contractor an amount equal to ninety (90) percent of said approved estimate. Payments may at any time be withheld if in the judgment of the District the work is not proceeding in accordance with the Contract Documents, the Contractor is not complying with the requirements of the Contract, stop notices have been timely filed, the estimate contains an error, or the District has incurred costs or requests reasonable financial assurances regarding defective work by the Contractor.

d. Final Payment:

Within thirty (30) days after all required work is full completed in accordance with the Contract Documents, the Contractor shall submit a final invoice for the total value of the work completed in accordance with the Contract, which shall be subject to review and approval by the District. As required by law, District shall pay Contractor the unpaid balance of the Contract price of the work, or the whole Contract price of the work if no progress payment has been made, determined in accordance with the terms of the Contract, less such sums as may be lawfully retained under any provision of the Contract, including, but not limited to, amounts retained as liquidated damages, for stop notices, for third-party claims for which the Contractor is required to indemnify the District, for defective work and costs incurred by the District in connection therewith, or for other such claims and damages attributable to the Contractor (“Final Payment”). Prior progress estimates and payments are subject to correction in the Final Payment. Tender of the Final Payment shall constitute denial by the District of any unresolved claim. Contractor’s acceptance of the Final Payment shall operate as a full and final release to the District and its agents from any and all unasserted claims Contractor has, or may have, related to this contract.

e. Payments Do Not Imply Acceptance of Work:

The granting of any progress payment or payments by the District or the receipt thereof by the Contractor, shall not constitute acceptance of the work or of any portion thereof, and shall in no way lessen the liability of the Contractor to replace unsatisfactory work or material, whether or not the unsatisfactory character of such work or material was apparent or detected at the time such payment was made.

f. Retention of Sums Charged Against Contractor:

It is mutually understood and agreed that when under any provision of this Contract the District shall charge any sums of money against the Contractor, the amount of such charge shall be deducted and retained by the District from the amount of the next succeeding progress estimate, or from any other monies due or that may become due the Contractor on account of the Contract. If on completion or termination of the Contract such monies due the Contractor are found insufficient to cover the District's charges against the Contractor, the District shall have the right to recover the balance from the Contractor or the Contractor’s Sureties.

g. Release:

The Contractor and each assignee under an assignment in effect at the time of Final Payment shall, if required by the District, execute and deliver at the time of Final Payment and as a condition precedent to Final Payment, a release in form and substance satisfactory to and containing such exemptions as may be found appropriate by the District, discharging the District, its officers, agents and employees of and from liabilities, obligations and claims arising under this Contract.

h. Payment to Subcontractors and Suppliers:

The Contractor shall pay each Subcontractor and supplier promptly on receipt of each progress payment from the District for the materials, labor and equipment delivered to the site or incorporated in the work by each Subcontractor during the period for which the progress payment is made, less any retention as provided above.

i. Stop Notice Costs:

District reserves the right to charge Contractor or Surety, or to withhold from release of retention all costs incurred by the District, including attorney fees, for processing and handling stop notice claims.

28. MODIFICATIONS OF CONTRACT

a. Changes In The Work:

1) The District, before the date of acceptance of the work, may, without notice to the Sureties, order changes in the work ("Modifications"), may order extra materials and extra work in connection with the performance of the Contract, and the Contractor shall promptly comply with such orders. All Modifications must be approved by DSA and the State Fire Marshall, if applicable, as required by law.

2) If changes ordered in design, workmanship or materials are of such a nature as to increase or decrease the cost of any part of the work, the price fixed in the Contract shall be increased or decreased by such amount as represents the reasonable and proper allowance for the increase or decrease in the cost of the work in accordance with the provisions of this Article, and any other applicable terms of the Contract, including, but not limited to, the Contractor's schedule of values and the price for allowances, if any. Except as provided by law, the total cost of all Modifications shall not exceed ten (10) percent of the original Contract price.

3) In the case of a disputed work item, the District may direct the Contractor to perform the disputed work at no additional cost to the District on the grounds that the work is adequately indicated in the Contract Documents, and therefore already included in the Contract price. If the Contractor maintains that the disputed work represents a modification

to the Contract, Contractor may submit a claim in accordance with Article 50, Resolution of Performance Claims. Notwithstanding any dispute regarding the requirements of the Contract Documents, Contractor shall promptly and fully comply with the District's directive. Contractor's failure to do so shall be deemed a material breach of this Contract, and in addition to all other remedies, District may, in its sole discretion, hire another contractor and/or use its own forces to complete the disputed work at Contractor's sole expense, and may deduct the cost of such work from the Contract price.

b. Cost Breakdown:

When the Modification is proposed, the Contractor shall furnish a complete breakdown of actual costs of both credits and extras, itemizing materials, labor, taxes, overhead and profit. Subcontract work shall be so indicated. All costs must be fully documented. The following limitations shall apply:

1) Limitations Where Contract Price Changes are Involved:

(a) Overhead and Profit for the Contractor. The Contractor's overhead and profit on the cost of subcontracts shall be a sum not exceeding ten percent (10%) of such costs. The Contractor's overhead and profit on the costs of work performed by the Contractor shall be a sum not exceeding fifteen percent (15%) of such costs. Overhead and profit shall not be applied to the cost of taxes and insurance by Contractor or Subcontractors or to credits. No processing or similar fees may be charged by the Contractor in connection with the Modification.

(b) Bond Premiums. The actual rate of bond premiums as paid on the total cost (including taxes, etc.) will be allowed, but with no markup for profit and overhead.

(c) Taxes. State and city sales taxes should be indicated. Federal excise tax shall not be included. (District will issue exemption on request.)

2) Change Order Certification:

All change orders and requests for proposed change orders shall be deemed to include the following certification by the Contractor:

"The undersigned Contractor approves the foregoing as to the changes in work, if any, and as to the contract price specified for each item and as to the extension of time allowed, if any, for completion of the Project as stated herein, and agrees to furnish all labor, materials, and service and to perform all work necessary to complete any additional work specified for the consideration stated herein. Submission of claims which have no basis in fact or which Contractor knows are false are made at the sole risk of the Contractor and may be a violation of the False Claims Act, as set forth in Government Code §§ 12650 *et seq.* It is understood that the changes to the Contract Documents set forth herein shall only be effective upon approval by the Governing Board of the District.

"It is expressly understood that the value of the extra work or changes expressly includes any and all of the Contractor's costs and expenses, both direct and indirect, resulting from additional time required on the Project or resulting from delay to the Project. Any costs, expenses, damages, or time extensions not included herein are deemed waived."

c. Unit Prices, Schedule of Values, or Allowances:

Where Unit Prices, a Schedule of Values, and/or Allowances are required by the Contract Documents, that pricing shall govern in computing any additions to or deductions from the Contract price on account of any added or omitted work. Unit Prices listed in the original bid include all costs and no addition of any description will be allowed.

d. Time and Materials:

If it is impossible, because of the nature of the work, or for any other reason, to fix an increase in price definitely in advance, the Change Order may fix a maximum price which shall not under any circumstances be exceeded, and subject to such limitation, such alteration, modification or extra shall be paid for at the actual necessary cost as determined by the sum of the following items (1) to (5) inclusive:

- 1) Labor, including premium on compensation insurance and charge for Social Security taxes, and other taxes pertaining to labor.
- 2) Material, including sales taxes and other taxes pertaining to materials.
- 3) Plant and equipment rental, to be agreed upon in writing before the work is begun. No charge for the cost of repairs to plant or equipment will be allowed.
- 4) Overhead and profit computed at fifteen percent (15%) of the total of Items (1) to (3) inclusive.
- 5) The proportionate cost of premiums on bonds required by these Specifications, computed at one and one-half percent (1-1/2%) of the total of items (1) to (4) inclusive.

If the Time and Materials work is done by a Subcontractor, the amount shall be determined as set forth above under items (1) to (5) inclusive. The Contractor's overhead and profit on the costs of subcontracts (exclusive of taxes and insurance) shall not exceed ten percent (10%) of such costs.

The District reserves the right to furnish such materials as it may deem expedient and no allowance will be made for profit thereon. The above-described methods of determining the payment for work and materials shall not apply to the performance of any work or the furnishing of any material which, in the judgment of the District, may properly be classified under items for which prices are established in the Contract.

e. Oral Modifications:

No oral statements of any person whatsoever shall in any manner or degree modify or otherwise affect the terms of the Contract.

29. INDEMNITY

Contractor shall defend with counsel acceptable to District, indemnify and hold harmless to the full extent permitted by law, the District and its Board of Trustees, officers, agents, project manager, employees and volunteers from and against any and all liability, loss, damage, claims, expenses, fines judgments and costs (including, without limitation, attorney's fees and costs and fees of litigation) (collectively, "Liability") of every nature arising out of or in connection with Contractor's performance of the Project or its failure to comply with any of its obligations contained in these Contract Documents, except such Liability caused by the active negligence, sole negligence or willful misconduct of the District. Such indemnification shall extend to all claims, demands, or liabilities occurring after completion of the project as well as during the progress of the work. Pursuant to California Public Contract Code §9201, District shall timely notify Contractor of receipt of any third-party claim relating to this Project.

30. WARRANTY OF TITLE

Contractor warrants that title to all work, materials or equipment included in a request for payment shall pass and transfer to the District whether or not they are installed or incorporated in the Project, free from any claims, liens or encumbrances, when such payment is made to the Contractor. Contractor further warrants that no such work, materials or equipment have been purchased for work under the Contract subject to an agreement by which an interest therein or an encumbrance thereon is retained by the seller or supplier.

31. USE OF COMPLETED PARTS OF THE WORK BEFORE ACCEPTANCE

Whenever the work or any part thereof is in a condition suitable for use, and the best interest of the District requires such use, the District may take possession of, connect to, open for public use, or use the work or a part thereof. When so used, maintenance and repairs due to ordinary wear and tear or vandalism will be made at District's expense. The use by the District of the work or part thereof as contemplated in this section shall in no case be construed as constituting acceptance of the work or any part thereof, including, but not limited to, the right to assess liquidated damages. Such use shall neither relieve the Contractor of any of Contractor's responsibilities under the Contract nor act as a waiver by the District of any of the conditions thereof. Contractor shall

continue to maintain all insurance, ~~including Builder's Risk insurance~~, on the entire Project, and diligently pursue full completion of the work.

32. GUARANTEE & WARRANTY

By signing this Contract, Contractor agrees to the following guarantee and warranty:

Guarantee & Warranty

Contractor hereby guarantees and warrants its work on the Project for a period of two (2) years from the date of the filing of Notice of Completion as follows.

Contractor shall promptly repair or replace to the satisfaction of the District any or all work that appears defective in workmanship, equipment and/or materials for whatever reason, ordinary wear and tear and unusual abuse or neglect excepted, together with any other work which may be damaged or displaced in so doing.

Contractor agrees to promptly correct and remedy any failure by the Contractor to conform its work, activities and services to the requirements of the Contract Documents.

In the event of the Contractor's failure to comply with the above-mentioned obligations within ten (10) calendar days of notice, or sooner if required by an emergency, Contractor hereby authorizes the District to have the defects or deficiencies repaired, remedied, corrected and made good at Contractor's expense, and Contractor shall pay the costs and charges therefore upon demand. The Surety agrees to be responsible for these costs and charges as well.

33. PROTECTION OF WORK AND PROPERTY

a. The Contractor shall be responsible for each operation and all work the Project, both permanent and temporary. The Contractor shall protect the work and materials from damage due to negligence, the action of the elements, the carelessness of third parties, vandalism, or any other cause whatever, until the final completion and acceptance of the Project. Should improper work by the Contractor be covered by another and damage or defects result, the whole work affected shall be made good by the Contractor to the satisfaction of the District without expense to the District. The Contractor shall take reasonable care to avoid damage to existing facilities or utilities, whether on the Project or adjacent to it, and Contractor shall be liable for any damage thereto or interruption of service due to Contractor's operations. If the Contractor encounters any facilities or utilities not shown on the drawings or not reasonably inferable therefrom, Contractor shall promptly notify the District about them, and shall do no further work which may cause damage to same. If it is determined that some action needs to be taken regarding facilities not shown, the Contractor will be given directives on what action to take, and any additional cost to the Contractor incurred thereby will be handled by Change Order.

b. The property limits of the area of the Project are indicated on the drawings. Except for work specifically shown or noted, Contractor shall confine Contractor's operations within the indicated property limits. The Contractor shall provide, install, and maintain all shoring, bracing and

underpinning necessary to support adjacent property, streets, buildings and structures that may be affected by building operations for this work; shall serve or cause to be served all legal notices to adjoining property Districts that may be necessary for their protection; and shall protect from damage all adjacent buildings, fences, landscaping, and repair or replace any such property damaged in the course of work under the Contract.

34. USE OF ROADWAYS AND WALKWAYS

The Contractor shall not unnecessarily interfere with use of any roadway; walkway or other facility for vehicular or pedestrian traffic by any party entitled to use it. Wherever such interference becomes necessary for the proper and convenient performance of the work and no satisfactory detour route exists, the Contractor shall, before beginning the interference, provide a satisfactory detour, temporary bridge, or other proper facility for traffic to pass around or over the interference and shall maintain it in satisfactory condition as long as the interference continues, all without extra payment unless otherwise expressly stipulated in the Contract Documents.

35. MATERIALS

a. Unless explicitly stated otherwise, all specified equipment and material comprising the work of this Contract, as being provided or furnished or installed, shall imply the inclusion of all components, hardware and accessories, required for complete installation and satisfactory operation as intended by the manufacturer. Wherever the method of installation of any material is not explicitly specified, the installation shall be as recommended by manufacturer.

b. Wherever in the Contract Documents it is provided that the Contractor shall furnish materials or equipment for which no detailed specifications are set forth, such materials or equipment shall be new and of the best grade for the purpose for which they will be used when incorporated in the work. Materials specified by reference to a number or symbol of a specific standard, such as A.S.M., Federal Specification, State Standard, Trade Association, or similar standards, shall comply with requirements in the latest revision thereof and any amendment or supplement in effect on the date of the notice inviting bids.

c. None of the materials to be provided furnished or installed on this Project shall contain asbestos or any other "hazardous substance" as that term is defined by federal or state law.

36. SUBSTITUTIONS

a. Wherever in the drawings or Specifications a material or product is called for by trade or brand names or manufacturer and model number, alternative items of equal quality and purpose may be proposed for use by the Contractor. The burden of proof of equality is on the Contractor, and Contractor shall furnish all information and supplies necessary for the District to make a thorough evaluation of the proposed substitution. The District's decision about the equality of the proposed substitution is final, and if the proposed substitution is not approved, the Contractor shall install the item called for. Proposed substitutions and any changes in adjacent work caused by them shall be made by the Contractor at no additional cost to the District.

b. Proposed substitutions shall be submitted sufficiently before actual need to allow time for thorough evaluation. Substitutions shall not be proposed for the reason that submittals were not made early enough to avoid delay. District's review of substitutions shall not relieve the Contractor from complying with the requirements of the drawings and Specifications.

c. In the event Contractor makes substitutions in materials, equipment, or designs, with or without the District's approval, other than those authorized herein, the Contractor shall then assume full responsibility for the effects of such substitutions on the entire Project, including the design, and shall reimburse the District for any charges resulting from such substitutions, including any charges for modifications in the work of other trades, and including any charges for additional design, plus reasonable and customary mark-ups.

37. TESTING

a. Materials, equipment, or other work requiring tests may be specified in the Contract Documents, and they shall be adequately identified and delivered to the site in ample time before intended use to allow for testing. If such materials, equipment or other work should be covered without required testing and approval, they shall be uncovered at the Contractor's expense, including any repairs or replacement resulting therefrom. The Contractor shall notify the District when and where such materials, equipment or other work are ready for testing, and Contractor shall bear the cost of making them available for testing. The Contractor shall notify the District sufficiently before the need for testing so as to cause no delay in the work and, in any case, at least forty-eight (48) hours prior to the need for testing.

b. The cost of initial tests called for will be paid by the Contractor's manufacturer and will be performed by independent testing consultants retained by the Contractor. All other tests and inspections specified or otherwise required to substantiate compliance with specified requirements for quality of material or performance of operation shall be paid for by the Contractor. If retesting or additional testing is necessary because of substandard initial test results, the costs thereof shall be paid by the Contractor, including any repairs or replacement resulting therefrom.

38. INSPECTION

a. All materials, equipment and workmanship used in the work of the Project shall be subject to inspection or testing at all times and locations during performance and/or manufacture. The District's authorized representatives and representatives of other agencies having authority over the work shall have access to the work for the above purposes at all reasonable times and locations. Any material or work found to be unsatisfactory or not according to the Contract Documents shall be replaced with the correct material or work and the defective items promptly removed, all at the Contractor's expense, when directed to do so by any of the above-named persons having authority over the work. The cost review time and analysis by the District consultants necessitated by incomplete or defective work shall be charged to the Contractor.

b. Inspection and testing by the District or manufacturer's representatives shall not relieve the Contractor from complying with the requirements of the Contract Documents. The Contractor is responsible for its own quality control.

c. Whenever required by the District, the Contractor shall furnish all tools, labor and materials necessary to make an examination of work in place by uncovering the same. Should such work be found unsatisfactory, the cost of examination and reconstruction shall be paid by the Contractor. Should such work be found satisfactory, the cost of examination and reconstruction of the work shall be paid by Change Order unless the Contractor improperly covered the work before it could be inspected or tested. If the Contractor considers it necessary or desirable to work on Saturday, Sunday or a holiday, Contractor shall seek written approval from the District at least forty-eight (48) hours before the commencement of such work.

39. CLEANUP

a. The Contractor shall maintain the premises and area of the work in a neat and clean condition. No burning of rubbish on site shall be allowed. The Contractor shall control dust on the site by sprinkling at whatever intervals are necessary to keep it laid down and shall take measures to prevent dust and debris from being accidentally transported outside the area of the work.

b. Final cleaning, such as sweeping, dusting, vacuuming, dry and wet mopping, polishing, sealing, waxing and other finish operations normally required on newly installed work shall be taken to indicate the finished conditions of the various new and existing surfaces at the time of acceptance. Prior to the time of acceptance, all marks, stains, fingerprints, dust, dirt, splattered paint and blemishes resulting from the various operations shall be removed throughout the Project. Plumbing fixtures and light fixtures shall be washed clean. Hardware and other unpainted metals shall be cleaned and all building papers and other temporary protections shall be removed throughout the building, or portion of the building where Contractor was involved, all to the satisfaction of the District. The exterior of the buildings, playfields, exterior improvements, and planting spaces shall be similarly clean and in good order.

40. CONSTRUCTION WASTE MANAGEMENT REQUIREMENTS

a. District's Zero-Waste Program Initiative

- 1) The District is rigorously implementing sustainability initiatives that reduce, reuse, and recycle District materials.
- 2) The relevance of this important initiative is for the District to employ environmentally responsible Zero-Waste recycling strategies for all discarded materials; and in this pursuit formulate relationships with vendors, contractors and refuse haulers to keep District recyclable commodities away from landfills.

b. Contractor Scope

- 1) This Article includes the requirements for the diversion by the Contractor of construction and demolition debris from landfills. The Contractor shall develop and implement a Waste Management Plan as specified herein. The Contractor shall take a pro-active, responsible role in the management of construction and demolition waste and require all subcontractors, vendors, and suppliers to participate in the effort.
- 2) The District has established that this Project shall generate the least amount of waste practicable and that processes shall be utilized that ensure the generation of as little waste as possible due to over-packaging, error, poor planning, breakage, mishandling, contamination or other factors.
- 3) As much of the waste materials as economically feasible shall be reused, salvaged or recycled. Waste disposal in landfills shall be minimized.
- 4) The Contractor is encouraged to use waste hauling companies that separate recyclable materials. The Contractor shall work with its waste haulers in providing other recycling methods as appropriate.
- 5) The Contractor is responsible for implementation of any special programs involving rebates or similar incentives related to the recycling of waste. Revenues or other savings obtained for salvage or recycling accrue to the Contractor.

b. References

- 1) "Builders' Guide to Reuse and Recycling, A Directory for Construction and Demolition Materials."
- 2) "Construction Site Recycling, a Guide for Building Contractors." For a copy of the guide call 1-888-442-2666 or go to www.recycleworks.org.
- 3) "Where to Recycle Construction and Demolition Debris." For a copy of the guide call 1-888-442-2666 or go to www.recycleworks.org.

c. Definitions

- 1) General: Construction and demolition waste includes products of demolition or removal, excess or unusable construction materials, packaging materials for construction products, and other materials generated during the construction process but not incorporated into the work.
- 2) "Divert" means to use material for any lawful purpose other than disposal in a landfill or transfer facility for disposal.
- 3) "Recycling Service" means an off-site service that provides processing of material and diversion from a landfill.
- 4) "Hauler" means the entity that transports construction and demolition debris to either a landfill or a recycling service.

d. Compliance with regulatory requirements:

- 1) The Contractor shall perform all handling, storage, transportation and disposal of construction debris in compliance with all applicable Federal, State, regional, and local statutes, laws, regulations, rules, ordinances, codes and standards.
- 2) Nothing stated on the drawings, in this Article 40 or in any other provision of the Contract Documents shall be construed as allowing work that is not in strict compliance with all applicable Federal, State, regional, and local statutes, laws, regulations, rules, ordinances, codes and standards.

e. Performance Requirement

1. The Contractor shall divert a minimum of fifty percent (50%) of the total Project construction and demolition waste from landfills.

f. Quality Control

1. General:

- i) The Contractor shall not permit materials designated for diversion to become contaminated or to contaminate the site or surrounding areas.

2. Training and Coordination:

- i) The Contractor shall designate an on-site party [or parties] who will be responsible for instructing workers and subcontractors, and overseeing and documenting results of the Waste Management Plan for the Project.
- ii) The Contractor shall furnish copies of the Waste Management Plan to all on-site supervisors, each subcontractor, and the District's representative.
- iii) The Contractor shall include construction waste management as an item on the agenda of all progress meetings.

3. The Waste Management Plan:

- i) The Contractor shall prepare a Waste Management Plan for diverting the specified percentage of construction debris from landfills, including written and graphic information indicating how the waste will be diverted.
- ii) Include in the plan both on-site recycling of construction and debris and off-site diversion from landfills.
- iii) Identify the means and methods for collecting and separating each type of debris deemed reusable or recyclable.

- iv) List the off-site recycling service and hauler of each designated debris item who has agreed to accept and divert that item from the landfill in the proposed quantities anticipated. List the service and hauler company name, address, telephone number and persons contacted.
- v) List the name of the individuals on the Contractor's staff responsible for waste prevention and management.
- vi) List the actions that will be taken to reduce solid waste generation, including coordination with subcontractors to ensure awareness and participation.
- vii) Describe the specific approaches to be used in recycling/reuse of the various materials generated, including the areas on site and equipment to be used for processing, sorting, and temporary storage of wastes.
- viii) Characterize the waste to be generated, including estimated types and quantities. Name the landfills and/or incinerator to be used.
- ix) List the specific waste materials that will be salvaged for resale, salvaged and reused on the Project, salvaged and stored for reuse on a future project, or recycled. Recycling facilities that will be used shall be identified by name, location and phone number.

The Contractor shall submit the Plan to the District within ten (10) calendar days after receipt of the Notice to Proceed, or prior to any waste removal, whichever occurs first. The Contractor shall promptly revise and resubmit the Plan as required by the District. Review of the Contractor's Waste Management Plan will not relieve the Contractor of responsibility for compliance with applicable environmental regulations or meeting Project diversion requirements.

g. Plan Implementation

- 1) The Contractor shall implement the approved Waste Management Plan.
- 2) The Contractor shall maintain a log of each load and of each category of waste that is diverted from the landfill. The Contractor shall separately log the debris sent to a Class III landfill and materials sent to a recycling facility.
- 3) The Contractor shall include in the log the type of load, load weight, name of the hauling service, recycling service or landfill, and the date accepted by the recycling service or by the landfill.
- 4) The Contractor shall retain and make available all weight tickets and copies of receipts and invoices relating to the implementation of the Plan.
- 5) The District reserves the right to audit the log at any time.

h. Material Handling

- 1) Designate a specific area or areas on site to facilitate the separation of materials for potential reuse, salvage, recycling, and return. Clearly mark bins for each category of waste.
- 2) Keep waste bins and pile areas neat and clean. Do not contaminate non-recyclable waste with materials designated for reuse or recycling.

i. Contractor's Responsibilities

- 1) Provide on-site instruction of the appropriate separation, handling, recycling, salvage, reuse, and return methods to be used by all parties at the appropriate stages of the Project.
- 2) Separate, store, protect, and handle at the site identified recyclable and salvageable waste products in a manner that maximizes recyclability and salvage-ability of identified materials. Provide the necessary containers, bins and storage areas to facilitate effective waste management. Provide barriers and enclosures around recyclable material storage areas which are non-hazardous and recyclable or reusable and which shall be located away from construction traffic. Provide adequate space for pick-up and delivery. Use cleaning materials that are non-hazardous and biodegradable.

41. INSTRUCTIONS AND MANUALS

The maintenance instructions application/installation instructions and service manuals called for in the Specifications shall be part of the Submittal/Contract Closeout process.

42. DRAWINGS

The Contractor and all their Subcontractors will maintain on the work site a separate complete set of contract drawings, which will be used solely for the purpose of recording changes made in any portion of the work during the course of the project, regardless of the reason for the change. As changes occur, there will be included or marked on this record set on a daily basis if necessary to keep them up to date at all times. Actual locations to scale shall be identified on the drawings for all runs of mechanical and electrical work, including all site utilities installed underground, in walls, floors, and furred spaces, or otherwise concealed. Deviations from the drawings shall be shown in detail. All main runs, whether piping, conduit, ductwork, drain lines, etc., shall be located in addition by dimension and elevation. Progress payments may be delayed or withheld until such time as the record set is brought up to date to the satisfaction of the District. The Contractor shall verify that all changes in the work are included in the "AS-BUILT" drawings and deliver the complete set thereof to the District for review and approval within thirty (30)-calendar days after District's Notice of Completion. District's acceptance and approval of the "AS-BUILT" drawings are a necessary condition precedent to the release of the final retention.

43. NO DISCRIMINATION

It is the policy of the District that, in connection with all work performed under this public works contracts, there shall be no discrimination against any prospective or active employee or any other person engaged in the work because of actual or perceived race, color, ancestry, national origin, ethnic group identification, religion, sex, gender, sexual orientation, age, physical or mental disability, or marital status. The Contractor agrees to comply with applicable Federal and California laws including, but not limited to, the California Fair Employment Practice Act, beginning with Government Code §12900, Government Code §11135, and Labor Code §§1735, 1777.5, 1777.6 and 3077.5. In addition, the Contractor agrees to require like compliance by any Subcontractors employed on the work.

44. LABOR STANDARDS

a. Work Hours:

In accordance with California Labor Code §1810, eight (8) hours of labor shall constitute a legal day's work under this Contract. Contractor and any Subcontractor shall pay workers overtime pay as required by California Labor Code §1815. The Contractor shall pay each worker, laborer, mechanic or persons performing work under this Contract at a rate not less than the prevailing wage for each craft or classification covering the work actually performed.

b. Penalty:

Contractor shall forfeit to District as a penalty the sum of twenty-five dollars (\$25.00) for each worker employed in the execution of this Contract by Contractor or any Subcontractor for each calendar day during which said worker is required or permitted to work more than eight (8) hours in any one (1) calendar day or more than forty (40) hours per calendar week in violation of Article 3, Division 2, Part 7, Chapter 1 of the California Labor Code.

c. Employment of Apprentices:

Contractor agrees to comply with Labor Code §§1773.3, 1777.5 and 1777.6, and 3077 *et. seq.*, each of which is incorporated by reference into this Contract. These sections require that Contractors and Subcontractors employ apprentices in apprenticeable occupations in a ratio of not less than one (1) hour of apprentice work for every five (5) hours of labor performed by a journeyman, unless an exception is granted and that Contractors and Subcontractors shall not discriminate against otherwise qualified employees as apprentices on any public works solely on the ground of actual or perceived race, religion, color, national origin, ethnic group identification, sex, gender, sexual orientation, age, or physical or mental disability. Only apprentices who are in training underwritten apprenticeship occupations shall be employed. The responsibility for compliance with these provisions for all apprenticeable occupations rests with Contractor.

- d. The Contractor shall be knowledgeable of and comply with California Labor Code §§1727, 1773.5, 1775, 1777, 1777.5, 1810, 1813, 1860, including all amendments thereto; each of these sections is incorporated by reference into this Contract.

45. GENERAL RATE OF PER DIEM WAGES

- a. On File:

As required by Labor Code §1773.2, the District has available copies of the general prevailing rate of per diem wages for workers employed on public work as determined by the Director of the Department of Industrial Relations, which shall be available to any interested party on request. Contractor shall post a copy of the document at each job site.

- b. Prevailing Wage Rate:

The Contractor and each Subcontractor shall pay each worker performing work under this Contract at a rate not less than the prevailing wage as defined in Labor Code §§1771 and 1774 and §16000(a) of Title 8, California Code of Regulations.

- c. Penalty:

In accordance with §1775 of the Labor Code, the Contractor shall forfeit to the District as penalty, the sum of fifty dollars (\$50) for each calendar day, or portion thereof, for each worker paid less than the prevailing wage rates, as determined by the Director of the California Department of Industrial Relations, for any work done under this Contract by Contractor or by any Subcontractor. Contractor shall also pay each worker the difference between the stipulated prevailing wages rates and the amount actually paid to such worker.

46. RECORD KEEPING

- a. The Contractor agrees to comply with the provisions of §§1776 and 1812 of the Labor Code. The Contractor and each Subcontractor shall keep or cause to be kept an accurate record showing the names, addresses, social security numbers, work classifications, straight time and overtime hours worked each day and week of all workers employed by Contractor in connection with the execution of this Contract or any subcontract thereunder and showing the actual per diem wages paid to each of such workers. These records shall be certified and shall be reviewable at all reasonable hours to the inspection of the District awarding the Contract, its officers and agents, and to the Chief of the Division of Labor Statistics and Law Enforcement of the State Department of Industrial Law Enforcement of the State Department of Industrial Relations, and his or her other deputies and agents.
- b. In addition, copies of the above records shall be available as follows:
 - 1) A certified copy of an employee's payroll record shall be made available for inspection or furnished to the employee or his or her authorized representative on request;

- 2) A certified copy of all payroll records shall be made available for inspection or furnished upon request to the District, the Division of Labor Standards Enforcement, and the Division of Apprenticeship Standards of the Department of Industrial Relations;
- 3) A certified copy of all payroll records shall be made available upon request by the public for inspection or copies thereof made; provided, however, that a request by the public shall be made through either the District, the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement. If the requested payroll records have not been previously provided, the requesting party shall, prior to being provided the records, reimburse the costs of the Contractor, Subcontractors, and the entity through which the request was made. The public shall not be given access to the records at the principal office of the Contractor.
- c. The Contractor shall file a certified copy of the records with the entity requesting the records within ten days after receipt of a written request. Any copy of records made available for inspection as copies and furnished upon request to the public or any public agency by the District, shall be marked or obliterated in such a manner as to prevent disclosure of an individual's name, address, and social security number. The name and address of the Contractor awarded the Contract or performing the Contract shall not be marked or obliterated.
- d. The Contractor shall inform the District of the location of the records, including the street address, city and county, and shall, within five (5) working days, provide a notice of a change of location and address.
- e. In the event of noncompliance with the requirements of this section, the Contractor shall have ten days in which to comply subsequent to receipt of written notice specifying in what respects the Contractor must comply with this section. Should noncompliance still be evident after the ten (10) day period, the Contractor shall, as a penalty to the District, forfeit twenty-five dollars (\$25) for each calendar day, or portion thereof, for each worker, until strict compliance is effectuated. Upon the request of the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement, these penalties shall be withheld from progress payments then due.
- f. Responsibility for compliance with this provision shall be with the Contractor.

47. PROJECT COMPLETION

- a. When the work to be performed under this Contract has been fully completed, the Contractor shall notify the District, in writing, setting a date for inspection. The Contractor and Subcontractor representatives shall attend the inspection. As a result of this inspection, the District will prepare a list of items ("punch list") that are incomplete or not installed according to Contract Documents. Failure to include items of this list does not relieve the Contractor from fulfilling all requirements of the Contract Documents.

- b. The District will promptly deliver the punch list to the Contractor and it will include a period of time by which the Contractor shall complete all items listed thereon. On completion of all items on the punch list, verified by a final inspection, and all other Contract requirements, so that Final Completion has been achieved to the District's satisfaction, the District will file a Notice of Completion with the County Recorder. Payment of retention from the Contract, less any sums withheld pursuant to the terms of this Contract or applicable law, shall not be made sooner than thirty-five (35) calendar days after the date of filing of Notice of Completion.

48. RESOLUTION OF PROJECT PERFORMANCE CLAIMS

- a. Public work claims of \$375,000 or less between Contractor and District are subject to the provisions of Article 1.5 (commencing with §20104) of Chapter 1 of Part 2 of the Public Contract Code ("Article 1.5 claim"). For purposes of this section and Article 1.5, "public work" has the same meaning as set forth in §§3100 and 3106 of the Civil Code; "claims" means a separate demand by Contractor for a time extension or payment of money or damages arising from work done by or on behalf of Contractor pursuant to the Contract and payment of which is not otherwise expressly provided for or the claimant is not otherwise entitled to or the amount of the payment which is disputed by the District.
- b. All Article 1.5 claims shall be submitted on or before the date of the Final Payment and shall include all documents necessary to substantiate the claim. District shall respond in writing within forty-five (45) days of receipt of claim if the claim is less than or equal to \$50,000 ("\$50,000 claim") or within sixty (60) days if the claim is over \$50,000 but less than or equal to \$375,000 ("50,000 - \$375,000 claim"). In either case, District may request in writing within thirty (30) days of receipt of claim any additional documentation supporting the claim or relating to any defenses to the claim, which the District may have against the Contractor. Any additional information shall be requested and provided upon mutual agreement of the District and the Contractor. District's written response to the claim shall be submitted to Contractor within fifteen (15) days after receipt of the further documentation for \$50,000 claims or within thirty (30) days after receipt of the further documentation for \$50,000 - \$375,000 claims or within a period of time no greater than that taken by the Contractor in producing the additional information, whichever is greater.
- c. Within fifteen (15) days of receipt of the District's response, if Contractor disputes the District's written response, or within fifteen (15) days of the District's failure to respond within the time prescribed, the Contractor shall provide written notification to District demanding an informal conference to meet and confer ("conference") to be scheduled by District within thirty (30) days. Following the conference, if any claim or portion remains in dispute, the Contractor may file a claim as provided in Chapter 1 (commencing with §900) and Chapter 2 (commencing with §910) of Part 3 of Division 3.6 of Title 1 of the Government Code. For purposes of those provisions, the period of time within which a claim must be filed is tolled from the time the claimant submits a written claim pursuant to this section

- until the time that claim is denied as a result of the conference process, including any period of time utilized by the meet and confer process.
- d. Pursuant to Public Contract Code §20104.2(f), this section does not apply to tort claims and does not change the period for filing tort claims or actions specified by Chapter 1 (commencing with §900) and Chapter 2 (commencing with §910) of Part 3 of Division 3.6 of Title 1 of the Government Code.
 - e. If a civil action is filed, within sixty (60) days, but no earlier than thirty (30) days, following the filing of responsive pleadings, the court shall submit the matter to nonbinding mediation unless waived by mutual stipulation of both parties. The mediation process shall provide that both parties select a disinterested third person mediator within fifteen (15) days, shall be commenced within thirty (30) days of the submittal, and shall be concluded within fifteen (15) days of the commencement of the mediation unless time is extended upon a good cause showing to the court or by stipulation of the parties. If the parties fail to select a mediator within the fifteen (15) day period, any party may petition the court to appoint the mediator.
 - f. If the matter remains in dispute, the case shall be submitted to judicial arbitration as set forth in Public Contract Code §20104.4 (b)(1) through (b)(3).
 - g. For any claim in excess of \$375,000, the Contractor and the District shall follow the same process as for an Article 1.5 claim. The District will forward a response within sixty (60) days of submittal of any such claim. Judicial arbitration is not required for claims in excess of \$375,000.
 - h. In addition, for all unresolved claims that the Contractor wishes to pursue, the Contractor shall file a timely claim pursuant to the Government Claims Act and shall otherwise comply with the procedures set forth in that Act prior to commencing any litigation against the District. The accrual date for any such claim is the date the dispute or controversy first arose regarding the issued raised in the claim.
 - i. "The date of Final Payment," as used in this Article 50, means the date the public entity is required to release retention proceeds in accordance with Public Contract Code §7107 regardless of whether any payment is made to the Contractor at that time.
 - j. The claims required by this Article are jurisdictional and conditions precedent to the commencement of any further legal proceedings. Strict compliance with all filing deadlines is mandatory.

49. GENERAL PROVISIONS

- a. Assignment and Successors:
Neither party may transfer or assign its rights or obligations under the Contract Documents, in part or in whole, without the other party's prior written consent. The Contract Documents are binding on the heirs, successors, and permitted assigns of the parties hereto.

1.22 – GENERAL CONDITIONS

- b. Third Party Beneficiaries:
There are no intended third party beneficiaries to the Contract.
- c. Choice of Law and Venue
The Contract Documents shall be governed by California law, and venue shall be in the Superior Court of the county in which the Project is located, and no other place.
- d. Severability
If any provision of the Contract Documents are determined to be illegal, invalid, or unenforceable, in part or in whole, the remaining provisions, or portions of the Contract Documents shall remain in full force and effect.
- e. Entire Agreement
The Contract Documents constitute the final, complete, and exclusive statement of the terms of the agreement between the parties regarding the subject matter of the Contract Documents and supersedes all prior written or oral understandings or agreements of the parties.
- f. Waiver
No waiver of a breach, failure of any condition, or any right or remedy contained in or granted by the provisions of the Contract Documents shall be effective unless it is in writing and signed by the party waiving the breach, failure, right, or remedy. No waiver of any breach, failure, right, or remedy shall be deemed a waiver of any other breach, failure, right, or remedy, whether or not similar, nor shall any waiver constitute a continuing waiver unless the writing so specifies.
- g. Headings
The headings in the Contract Documents are included for convenience only and shall neither affect the performance or interpretation of any provision in the Contract Documents nor affect any of the rights or obligations of the parties to the Contract

2.1 SUMMARY OF WORK

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Site Access Conditions and Requirements;
- B. ~~Special Conditions.~~

1.02 SUMMARY OF WORK COVERED BY CONTRACT DOCUMENTS

- A. The Work of this Contract consists of the following:

The removal and replacement of electrical and lighting control panels, electronics, data network, dimmers, circuit wiring devices and other related infrastructure to support new theatre lighting being purchased under a separate contract for the theatre located at the Performing Arts Center at the College of Marin, Kentfield Campus.

Work must occur during the 2016 Summer Session commencing approximately May 23, 2016 and be substantially complete by August 1, 2016.

1.03 CONTRACTS

- A. Perform the Work under a single, fixed-price Contract.

1.04 WORK BY OTHERS

- A. Work on the Project that will be performed and completed prior to the start of the Work of this Contract:

(1) **NONE**

- B. Work on the Project that will be performed by others concurrent with the Work of this Contract:

(1) **A separate bid package to procure theatre lighting that plugs into the devices installed by this contract will be let during the course of this project and light installation may occur concurrent with the work of this contract for which both Contractors shall work cooperatively to achieve a full working system for the District.**

1.05 CODES, REGULATIONS, AND STANDARDS

- A. The codes, regulations, and standards adopted by the state and federal agencies having jurisdiction shall govern minimum requirements for this

project. Where codes, regulations, and standards conflict with the Contract Documents, these conflicts shall be brought to the immediate attention of the District and the Architect.

- B. Codes, regulations, and standards shall be as published effective as of date of bid opening, unless otherwise specified or indicated.

1.06 PROJECT RECORD DOCUMENTS:

- A. Contractor shall maintain on Site one set of the following record documents; Contractor shall record actual revisions to the Work:
 - (1) Contract Drawings.
 - (2) Specifications.
 - (3) Addenda.
 - (4) Change Orders and other modifications to the Contract.
 - (5) Reviewed shop drawings, product data, and samples.
 - (6) Field test records.
 - (7) Inspection certificates.
 - (8) Manufacturer's certificates.
- B. Contractor shall store Record Documents separate from documents used for construction. Provide files, racks, and secure storage for Record Documents and samples.
- C. Contractor shall record information concurrent with construction progress.
- D. Specifications: Contractor shall legibly mark and record at each product section of the Specifications the description of the actual product(s) installed, including the following:
 - (1) Manufacturer's name and product model and number.
 - (2) Product substitutions or alternates utilized.
 - (3) Changes made by Addenda and Change Orders and written directives.

1.07 EXAMINATION OF EXISTING CONDITIONS

- A. Contractor shall be held to have examined the Project Site and acquainted itself with the conditions of the Site or of the streets or roads approaching the Site.
- B. Prior to commencement of Work, Contractor shall survey the Site and existing buildings and improvements to observe existing damage and defects such as cracks, sags, broken, missing or damaged glazing, other building elements and Site improvements, and other damage.

2.1 – SUMMARY OF WORK

- C. Should Contractor observe cracks, sags, and other damage to and defects of the Site and adjacent buildings, paving, and other items not indicated in the Contract Documents, Contractor shall immediately report same to the District and the Architect.

1.08 CONTRACTOR'S USE OF PREMISES

- A. If unoccupied and only with District's prior written approval, Contractor may use the building(s) at the Project Site without limitation for its operations, storage, and office facilities for the performance of the Work. If the District chooses to beneficially occupy any building(s), Contractor must obtain the District's written approval for Contractor's use of spaces and types of operations to be performed within the building(s) while so occupied. Contractor's access to the building(s) shall be limited to the areas indicated.
- B. If the space at the Project Site is not sufficient for Contractor's operations, storage, office facilities and/or parking, Contractor shall arrange and pay for any additional facilities needed by Contractor.
- C. Contractor shall not interfere with use of or access to occupied portions of the building(s) or adjacent property.
- D. Contractor shall maintain corridors, stairs, halls, and other exit-ways of building clear and free of debris and obstructions at all times.
- E. No one other than those directly involved in the demolition and construction, or specifically designated by the District or the Architect shall be permitted in the areas of work during demolition and construction activities.
- ~~F. The Contractor shall install the construction security fence and maintain that it will be locked when not in use. Keys to this fencing will be provided to the District.~~

1.09 PROTECTION OF EXISTING STRUCTURES AND UTILITIES

- ~~A. The Drawings show above-grade and below-grade structures, utility lines, and other installations that are known or believed to exist in the area of the Work. Contractor shall locate these existing installations before proceeding with excavation and other operations that could damage same; maintain them in service, where appropriate; and repair damage to them caused by the performance of the Work. Should damage occur to these existing installations, the costs of repair shall be at the Contractor's expense and made to the District's satisfaction.~~
- B. Contractor shall be alert to the possibility of the existence of additional structures and utilities. If Contractor encounters additional structures and utilities, Contractor will immediately report to the District for disposition of same as indicated in the General Conditions.

1.10 UTILITY SHUTDOWNS AND INTERRUPTIONS

2.1 – SUMMARY OF WORK

- A. Contractor shall give the District a minimum of three (3) days written notice in advance of any need to shut off existing utility services or to effect equipment interruptions. The District will set exact time and duration for shutdown, and will assist Contractor with shutdown. Work required to re-establish utility services shall be performed by the Contractor.
- B. Contractor shall obtain District's written approval as indicated in the General Conditions in advance of deliveries of material or equipment or other activities that may conflict with District's use of the building(s) or adjacent facilities.

1.11 STRUCTURAL INTEGRITY

- A. Contractor shall be responsible for and supervise each operation and work that could affect structural integrity of various building elements, both permanent and temporary.
- B. Contractor shall include structural connections and fastenings as indicated or required for complete performance of the Work.

PART 2 – PRODUCTS Not Used.

PART 3 – EXECUTION Not Used.

END OF DOCUMENT

2.2 PRODUCT OPTIONS AND SUBSTITUTIONS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. Instructions to Bidders;
- B. General Conditions, including, without limitation, Substitutions For Specified Items;
- C. Special Conditions.

1.02 SUBSTITUTIONS OF MATERIALS AND EQUIPMENT:

- A. Catalog numbers and specific brands or trade names followed by the designation "or equal" are used in conjunction with material and equipment required by the Specifications to establish the standards of quality, utility, and appearance required. Substitutions which are equal in quality, utility, and appearance to those specified may be reviewed subject to the provisions of the General Conditions.
- B. Wherever more than one manufacturer's product is specified, the first-named product is the basis for the design used in the work and the use of alternative-named manufacturers' products or substitutes may require modifications in that design. If such alternatives are proposed by Contractor and are approved by the District and/or the Architect, Contractor shall assume all costs required to make necessary revisions and modifications of the design resulting from the substitutions requested by the Contractor.
- C. When materials and equipment are specified by first manufacturer's name and product number, second manufacturer's name and "or approved equal," supporting data for the second product, if proposed by Contractor, shall be submitted in accordance with the requirements for substitutions.
- D. If the District and/or Architect, in reviewing proposed substitute materials and equipment, require revisions or corrections to be made to previously accepted Shop Drawings and supplemental supporting data to be resubmitted, Contractor shall promptly do so. If any proposed substitution is judged by the District and/or Architect to be unacceptable, the specified material or equipment shall be provided.
- E. Samples may be required. Tests required by the District and/or Architect for the determination of quality and utility shall be made at the expense of Contractor, with acceptance of the test procedure first given by the District.

- F. In reviewing the supporting data submitted for substitutions, the District and/or Architect will use for purposes of comparison all the characteristics of the specified material or equipment as they appear in the manufacturer's published data even though all the characteristics may not have been particularly mentioned in the Contract Documents. If more than two (2) submissions of supporting data are required, the cost of reviewing the additional supporting data shall be borne by Contractor, and the District will deduct the costs from the Contract Price.

PART 2 – PRODUCTS Not Used.

PART 3 – EXECUTION Not Used.

END OF DOCUMENT

2.3 CHANGES IN THE WORK

CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE PROVISIONS IN THE GENERAL CONDITIONS RELATED TO CHANGES AND/OR REQUESTS FOR CHANGES

END OF DOCUMENT

2.4 SUBMITTALS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Contractor's Submittals and Schedules, Drawings and Specifications;
- B. Special Conditions.

1.02 SECTION INCLUDES:

- A. Definitions:
 - (1) Shop Drawings and Product Data are as indicated in the General Conditions and include, but are not limited to, fabrication, erection, layout and setting drawings, formwork and falsework drawings, manufacturers' standard drawings, descriptive literature, catalogues, brochures, performance and test data, wiring and control diagrams. In addition, there are other drawings and descriptive data pertaining to materials, equipment, piping, duct and conduit systems, and methods of construction as may be required to show that the materials, equipment or systems and all positions conform to the requirement of the Contract Documents, including, without limitation, the Drawings.
 - (2) "Manufactured" applies to standard units usually mass-produced; "fabricated" means specifically assembled or made out of selected materials to meet design requirements. Shop Drawings shall establish the actual detail of manufactured or fabricated items, indicated proper relation to adjoining work and amplify design details of mechanical and electrical equipment in proper relation to physical spaces in the structure.
 - (3) Manufacturer's Instructions: Where any item of Work is required by the Contract Documents to be furnished, installed, or performed, at a minimum, in accordance with a specified product manufacturer's instructions, the Contractor shall procure and distribute copies of these to the District, the Architect, and all other concerned parties and shall furnish, install, or perform the work, at a minimum, in accordance with those instructions.
- B. Samples, Shop Drawings, Product Data, and other items as specified, in accordance with the following requirements:
 - (1) Contractor shall submit all Shop Drawings, Product Data, and Samples to the District, ~~the Architect, the Project Inspector, and the Construction Manager.~~

- (2) Contractor shall comply with all time frames herein and in the General Conditions and, in any case, shall submit required information in sufficient time to permit proper consideration and action before ordering any materials or items represented by such Shop Drawings, Product Data, and/or Samples.
- (3) Contractor shall comply with all time frames herein and in the General Conditions and, in any case, shall allow sufficient time so that no delay occurs due to required lead time in ordering or delivery of any item to the Site. Contractor shall be responsible for any delay in progress of Work due to its failure to observe these requirements.
- (4) Time for completion of Work shall not be extended on account of Contractor's failure to promptly submit Shop Drawings, Product Data, and/or Samples.
- (5) Reference numbers on Shop Drawings shall have Architectural and/or Engineering Contract Drawings reference numbers for details, sections, and "cuts" shown on Shop Drawings. These reference numbers shall be in addition to any numbering system that Contractor chooses to use or has adopted as standard.
- (6) When the magnitude or complexity of submittal material prevents a complete review within the stated time frame, Contractor shall make this submittal in increments to avoid extended delays.
- (7) Contractor shall certify on submittals for review that submittals conform to Contract requirements. In event of any variance, Contractor shall specifically state in transmittal and on Shop Drawings, portions vary and require approval of a substitute. Also certify that Contractor-furnished equipment can be installed in allocated space.
- (8) Unless specified otherwise, sampling, preparation of samples, and tests shall be in accordance with the latest standard of the American Society for Testing and Materials.
- (9) Upon demand by Architect or District, Contractor shall submit samples of materials and/or articles for tests or examinations and consideration before Contractor incorporates same in Work. Contractor shall be solely responsible for delays due to sample(s) not being submitted in time to allow for tests. Acceptance or rejection will be expressed in writing. Work shall be equal to approved samples in every respect. Samples that are of value after testing will remain the property of Contractor.

C. Submittal Schedule:

- (1) Contractor shall prepare its proposed submittal schedule that is coordinated with its proposed construction schedule and submit both to the District within ten (10) days after the date of the Notice to Proceed. Contractor's proposed schedules shall become the Project Construction Schedule and the Project Submittal Schedule after each is approved by the District.

- (2) Contractor is responsible for all lost time should the initial submittal be rejected, marked "revised and resubmit", etc.
- (3) All Submittals shall be forwarded to the District by the date indicated on the approved Submittal Schedule, unless an earlier date is necessary to maintain the Construction Schedule, in which case those Submittals shall be forwarded to the District so as not to delay the Construction Schedule.

1.03 SHOP DRAWINGS:

- A. Contractor shall submit one reproducible transparency and six (6) opaque reproductions. The District will review and return the reproducible copy and one (1) opaque reproduction to Contractor.
- B. Before commencing installation of any Work, the Contractor shall submit and receive approval of all drawings, descriptive data, and material list(s) as required to accomplish Work.
- C. Review of Shop Drawings is regarded as a service to assist Contractor and in all cases original Contract Documents shall take precedence as outlined under General Conditions.
- D. No claim for extra time or payment shall be based on work shown on Shop Drawings unless the claim is (1) noted on Contractor's transmittal letter accompanying Shop Drawings and (2) Contractor has complied with all applicable provisions of the General Conditions, including, without limitation, provisions regarding changes and payment, and all required written approvals.
- E. District shall not review Shop Drawings for quantities of materials or number of items supplied.
- F. District's and/or Architect's review of Shop Drawing will be general. District and/or Architect review does not relieve Contractor of responsibility for accuracy, proper fitting, construction of Work, furnishing of materials, or Work required by Contract Documents and not indicated on Shop Drawings. Shop Drawing reviewed by District and/or Architect is not to be construed as approving departures from Contract Documents.
- G. Review of Shop Drawings and Schedules does not relieve Contractor from responsibility for any aspect of those Drawings or Schedules that is a violation of local, County, State, or Federal laws, rules, ordinances, or rules and regulations of commissions, boards, or other authorities or utilities having jurisdiction.
- H. Before submitting Shop Drawings for review, Contractor shall check Shop Drawings of its subcontractors for accuracy, and confirm that all Work contiguous with and having bearing on other work shown on Shop Drawings is accurately drawn and in conformance with Contract Documents.
- I. Submitted drawings and details must bear stamp of approval of Contractor:

- (1) Stamp and signature shall clearly certify that Contractor has checked Shop Drawings for compliance with Drawings.
 - (2) If Contractor submits a Shop Drawing without an executed stamp of approval, or whenever it is evident (despite stamp) that Drawings have not been checked the District and/or Architect will not consider them and will return them to the Contractor for revision and resubmission. In that event, it will be deemed that Contractor has not complied with this provision and Contractor shall bear risk of all delays to same extent as if it had not submitted any Shop Drawings or details.
- J. Submission of Shop Drawings (in either original submission or when resubmitted with correction) constitutes evidence that Contractor has checked all information thereon and that it accepts and is willing to perform Work as shown.
- K. Contractor shall pay for cost of any changes in construction due to improper checking and coordination. Contractor shall be responsible for all additional costs, including coordination. Contractor shall be responsible for costs incurred by itself, the District, the Architect, the Project Inspector, the Construction Manager, any other Subcontractor or contractor, etc., due to improperly checked and/or coordination of submittals.
- L. Shop Drawings must clearly delineate the following information:
- (1) Project name and address.
 - (2) Architect's name and project number.
 - (3) Shop Drawing title, number, date, and scale.
 - (4) Names of Contractor, Subcontractor(s) and fabricator.
 - (5) Working and erection dimensions.
 - (6) Arrangements and sectional views.
 - (7) Necessary details, including complete information for making connections with other Work.
 - (8) Kinds of materials and finishes.
 - (9) Descriptive names of materials and equipment, classified item numbers, and locations at which materials or equipment are to be installed in the Work. Contractor shall use same reference identification(s) as shown on Contract Drawings.
- M. Contractor shall prepare composite drawings and installation layouts when required to solve tight field conditions.
- (1) Shop Drawings shall consist of dimensioned plans and elevations and must give complete information, particularly as to size and location of

sleeves, inserts, attachments, openings, conduits, ducts, boxes, structural interferences, etc.

- (2) Contractor shall coordinate these composite Shop Drawings and installation layouts in the field between itself and its Subcontractor(s) for proper relationship to the Work, the work of other trades, and the field conditions. The Contractor shall check and approve all submittal(s) before submitting them for final review.

1.04 PRODUCT DATA OR NON REPRODUCIBLE SUBMITTALS:

- A. Contractor shall submit manufacturer's printed literature in original form. Any fading type of reproduction will not be accepted. Contractor must submit a minimum of six (6) each, to the District. District shall return one (1) to the Contractor, who shall reproduce whatever additional copies it requires for distribution.
- B. Contractor shall submit six (6) copies of a complete list of all major items of mechanical, plumbing, and electrical equipment and materials in accordance with the approved Submittal Schedule, except as required earlier to comply with the approved Construction Schedule. Other items specified are to be submitted prior to commencing Work. Contractor shall submit items of like kind at one time in a neat and orderly manner. Partial lists will not be acceptable.
- C. Submittals shall include manufacturer's specifications, physical dimensions, and ratings of all equipment. Contractor shall furnish performance curves for all pumps and fans. Where printed literature describes items in addition to that item being submitted, submitted item shall be clearly marked on sheet and superfluous information shall be crossed out. If highlighting is used, Contractor shall mark all copies.
- D. Equipment submittals shall be complete and include space requirements, weight, electrical and mechanical requirements, performance data, and supplemental information that may be requested.

1.05 SAMPLES:

- A. Contractor shall submit for approval Samples as required and within the time frame in the Contract Documents. Materials such as concrete, mortar, etc., which require on-site testing will be obtained from Project Site.
- B. Contractor shall submit four (4) samples except where greater or lesser number is specifically required by Contract Documents including, without limitation, the Specifications.
 - (1) Samples must be of sufficient size and quality to clearly illustrate functional characteristics, with integrally related parts and attachment devices.
 - (2) Samples must show full range of texture, color, and pattern.

- C. Contractor shall make all Submittals, unless it has authorized Subcontractor(s) to submit and Contractor has notified the District in writing to this effect.
- D. Samples to be shipped prepaid or hand-delivered to the District.
- E. Contractor shall mark samples to show name of Project, name of Contractor submitting, Contract number and segment of Work where representative Sample will be used, all applicable Specifications Sections and documents, Contract Drawing Number and detail, and ASTM or FS reference, if applicable.
- F. Contractor shall not deliver any material to Site prior to receipt of District's and/or Architect's completed written review and approval. Contractor shall furnish materials equal in every respect to approved Samples and execute Work in conformance therewith.
- G. District's and/or Architect's review, acceptance, and/or approval of Sample(s) will not preclude rejections of any material upon discovery of defects in same prior to final acceptance of completed Work.
- H. After a material has been approved, no change in brand or make will be permitted.
- I. Contractor shall prepare its Submittal Schedule and submit Samples of materials requiring laboratory tests to specified laboratory for testing not less than ninety (90) days before such materials are required to be used in Work.
- J. Samples which are rejected must be resubmitted promptly after notification of rejection and be marked "Resubmitted Sample" in addition to other information required.
- K. Field Samples and Mock-Ups are to be removed by Contractor at District's direction:
 - (1) Size: As Specified.
 - (2) Furnish catalog numbers and similar data, as requested.

1.06 REVIEW AND RESUBMISSION REQUIREMENTS:

- A. The District will arrange for review of Sample(s), Shop Drawing(s), Product Data, and other submittal(s) by appropriate reviewer and return to Contractor as provided below within twenty-one (21) days after receipt or within twenty-one (21) days after receipt of all related information necessary for such review, whichever is later.
- B. One (1) copy of product or materials data will be returned to Contractor with the review status.
- C. Samples to be incorporated into the Work will be returned to Contractor, together with a written notice designating the Sample with the appropriate review status and indicating errors discovered on review, if any. Other Samples will not be returned, but the same notice will be given with respect thereto, and that notice shall be considered a return of the Sample.

- D. Contractor shall revise and resubmit any Sample(s), Shop Drawing(s), Product Data, and other submittal(s) as required by the reviewer. Such resubmittals will be reviewed and returned in the same manner as original Sample(s), Shop Drawing(s), Product Data, and other submittal(s), within fourteen (14) days after receipt thereof or within fourteen (14) days after receipt of all related information necessary for such review.
- E. Contractor may proceed with any of the Work covered by Sample(s), Shop Drawing(s), Product Data, and other submittal(s) upon its return if designated as no exception taken, or revise as noted, provided the Contractor proceeds in accordance with the District and/or the Architect's notes and comments.
- F. Contractor shall not begin any of the work covered by a Sample(s), Shop Drawing(s), Product Data, and other submittal(s), designated as revise and resubmit or rejected, until a revision or correction thereof has been reviewed and returned to Contractor.
- G. Sample(s), Shop Drawing(s), Product Data, and other submittal(s) designated as revise and resubmit or rejected and requiring resubmittal, shall be revised or corrected and resubmitted to the District no later than fourteen (14) days or a shorter period as required to comply with the approved Construction Schedule, after its return to Contractor.
- H. Neither the review nor the lack of review of any Sample(s), Shop Drawing(s), Product Data, and other submittal(s) shall waive any of the requirements of the Contract Documents, or relieve Contractor of any obligation thereunder.
- I. District's and/or Architect's review of Shop Drawings does not relieve the Contractor of responsibility for any errors that may exist. Contractor is responsible for the dimensions and design of adequate connections and details and for satisfactory construction of all the Work.

PART 2 – PRODUCTS Not Used.

PART 3 - EXECUTION Not Used.

END OF DOCUMENT

2.5 CUTTING AND PATCHING

PART 1 – GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Inspector, Inspections, and Tests, Integration of Work, Nonconforming Work, and Correction of Work, and Uncovering Work;
- B. Special Conditions;
- C. Hazardous Materials Procedures and Requirements;
- D. Hazardous Materials Certification;
- E. Lead-Based Paint Certification;
- F. Imported Materials Certification.

1.02 CUTTING AND PATCHING:

- A. Contractor shall be responsible for all cutting, fitting, and patching, including associated excavation and backfill, required to complete the Work or to:
 - (1) Make several parts fit together properly.
 - (2) Uncover portions of Work to provide for installation of ill-timed Work.
 - (3) Remove and replace defective Work.
 - (4) Remove and replace Work not conforming to requirements of Contract Documents.
 - (5) Remove Samples of installed Work as specified for testing.
 - (6) Provide routine penetrations of non-structural surfaces for installation of piping and electrical conduit.
 - (7) Attaching new materials to existing remodeling areas – including painting (or other finishes) to match existing conditions.
- B. In addition to Contract requirements, upon written instructions from the District, Contractor shall uncover Work to provide for observations of covered Work in accordance with the Contract Documents; remove samples of installed materials for testing as directed by District; and remove Work to provide for alteration of existing Work.

- C. Contractor shall not cut or alter Work, or any part of it, in such a way that endangers or compromises the integrity of the Work, the Project, or work of others.

1.03 SUBMITTALS:

- A. Prior to any cutting or alterations that may affect the structural safety of Project, or work of others, and well in advance of executing such cutting or alterations, Contractor shall submit written notice to District pursuant to the applicable notice provisions of the Contract Documents, requesting consent to proceed with the cutting or alteration, including the following:

- (1) The work of the District or other trades.
- (2) Structural value or integrity of any element of Project.
- (3) Integrity or effectiveness of weather-exposed or weather-resistant elements or systems.
- (4) Efficiency, operational life, maintenance or safety of operational elements.
- (5) Visual qualities of sight-exposed elements.

- B. Contractor's Request shall also include:

- (1) Identification of Project.
- (2) Description of affected Work.
- (3) Necessity for cutting, alteration, or excavations.
- (4) Affects of Work on District, other trades, or structural or weatherproof integrity of Project.
- (5) Description of proposed Work:
 - (a) Scope of cutting, patching, alteration, or excavation.
 - (b) Trades that will execute Work.
 - (c) Products proposed to be used.
 - (d) Extent of refinishing to be done.
- (6) Alternates to cutting and patching.
- (7) Cost proposal, when applicable.
- (8) The scheduled date the Contractor intends to perform the Work and the duration of time to complete the Work.
- (9) Written permission of other trades whose Work will be affected.

1.04 QUALITY ASSURANCE:

- A. Contractor shall ensure that cutting, fitting, and patching shall achieve security, strength, weather protection, appearance for aesthetic match, efficiency, operational life, maintenance, safety of operational elements, and the continuity of existing fire ratings.
- B. Contractor shall ensure that cutting, fitting, and patching shall successfully duplicate undisturbed adjacent profiles, materials, textures, finishes, colors, and that materials shall match existing construction. Where there is dispute as to whether duplication is successful or has been achieved to a reasonable degree, the District's decision shall be final.

1.05 PAYMENT FOR COSTS:

- A. Cost caused by ill-timed or defective Work or Work not conforming to Contract Documents, including costs for additional services of the District, its consultants, including but not limited to the Construction Manager, the Architect, the Project Inspector(s), Engineers, and Agents, will be paid by Contractor and/or deducted from the Contract by the District.
- B. District shall only pay for cost of Work if it is part of the original Contract Price or if a change has been made to the contract in compliance with the provisions of the General Conditions. Cost of Work performed upon instructions from the District, other than defective or nonconforming Work, will be paid by District on approval of written Change Order. Contractor shall provide written cost proposals prior to proceeding with cutting and patching.

PART 2 - PRODUCTS

2.01 MATERIALS:

- A. Contractor shall provide for replacement and restoration of Work removed. Contractor shall comply with the Contract Documents and with the Industry Standard(s), for the type of Work, and the Specification requirements for each specific product involved. If not specified, Contractor shall first recommend a product of a manufacturer or appropriate trade association for approval by the District.
- B. Materials to be cut and patched include those damaged by the performance of the Work.

PART 3 – EXECUTION

3.01 INSPECTION:

- A. Contractor shall inspect existing conditions of the Site and the Work, including elements subject to movement or damage during cutting and patching, excavating and backfilling. After uncovering Work, Contractor shall inspect conditions affecting installation of new products.

2.5 – CUTTING AND PATCHING

- B. Contractor shall report unsatisfactory or questionable conditions in writing to District as indicated in the General Conditions and shall proceed with Work as indicated in the General Conditions by District.

3.02 PREPARATION:

- A. Contractor shall provide shoring, bracing and supports as required to maintain structural integrity for all portions of the Project, including all requirements of the Project.
- B. Contractor shall provide devices and methods to protect other portions of Project from damage.
- C. Contractor shall, provide all necessary protection from weather and extremes of temperature and humidity for the Project, including without limitation, any work that may be exposed by cutting and patching Work. Contractor shall keep excavations free from water.

3.03 ERECTION, INSTALLATION AND APPLICATION:

- A. With respect to performance, Contractor shall:
 - (1) Execute fitting and adjustment of products to provide finished installation to comply with and match specified tolerances and finishes.
 - (2) Execute cutting and demolition by methods that will prevent damage to other Work, and provide proper surfaces to receive installation of repairs and new Work.
 - (3) Execute cutting, demolition excavating, and backfilling by methods that will prevent damage to other Work and damage from settlement.
- B. Contractor shall employ original installer or fabricator to perform cutting and patching for:
 - (1) Weather-exposed surfaces and moisture-resistant elements such as roofing, sheet metal, sealants, waterproofing, and other trades.
 - (2) Sight-exposed finished surfaces.
- C. Contractor shall execute fitting and adjustment of products to provide a finished installation to comply with specified products, functions, tolerances, and finishes as shown or specified in the Contract Documents including, without limitation, the Drawings and Specifications.
- D. Contractor shall fit Work airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces. Contractor shall conform to all Code requirements for penetrations or the Drawings and Specifications, whichever calls for a higher quality or more thorough requirement. Contractor shall maintain integrity of both rated and non-rated fire walls, ceilings, floors, etc.
- E. Contractor shall restore Work which has been cut or removed. Contractor shall install new products to provide completed Work in accordance with

requirements of the Contract Documents and as required to match surrounding areas and surfaces.

- F. Contractor shall refinish all continuous surfaces to nearest intersection as necessary to match the existing finish to any new finish.

END OF DOCUMENT

2.6 CONTRACT CLOSEOUT AND FINAL CLEANING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Completion of Work;
- B. Special Conditions;
- C. Temporary Facilities and Controls.

1.02 CLOSEOUT PROCEDURES

Contractor shall comply with all closeout provisions as indicated in the General Conditions.

1.03 FINAL CLEANING

- A. Contractor shall execute final cleaning prior to final inspection.
- B. Contractor shall clean interior and exterior glass and surfaces exposed to view; remove temporary labels, tape, stains, and foreign substances, polish transparent and glossy surfaces, wax and polish new vinyl floor surfaces, vacuum carpeted and soft surfaces.
- C. Contractor shall clean equipment and fixtures to a sanitary condition.
- D. Contractor shall replace filters of operating equipment.
- E. Contractor shall clean debris from roofs, gutters, down spouts, and drainage systems.
- F. Contractor shall clean Site, sweep paved areas, and rake clean landscaped surfaces.
- G. Contractor shall remove waste and surplus materials, rubbish, and construction facilities from the Site.

1.04 ADJUSTING

Contractor shall adjust operating products and equipment to ensure smooth and unhindered operation.

1.05 RECORD DOCUMENTS AND SHOP DRAWINGS

- A. Contractor shall legibly mark each item to record actual construction, including:
 - (1) Measured depths of foundation in relation to finish floor datum.

- (2) Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permit surface improvements.
 - (3) Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
 - (4) Field changes of dimension and detail.
 - (5) Details not on original Contract Drawings
 - (6) Changes made by modification(s).
 - (7) References to related Shop Drawings and modifications.
- B. Contractor will provide one set of Record Drawings to District.
 - C. Contractor shall submit all required documents to District and/or Architect prior to or with its final Application for Payment.

1.06 INSTRUCTION OF DISTRICT PERSONNEL

- A. Before final inspection, at agreed upon times, Contractor shall instruct District's designated personnel in operation, adjustment, and maintenance of products, equipment, and systems.
- B. For equipment requiring seasonal operation, Contractor shall perform instructions for other seasons within six months.
- C. Contractor shall use operation and maintenance manuals as basis for instruction. Contractor shall review contents of manual with personnel in detail to explain all aspects of operation and maintenance.
- D. Contractor shall prepare and insert additional data in Operation and Maintenance Manual when need for such data becomes apparent during instruction.
- E. Contractor shall use operation and maintenance manuals as basis for instruction. Contractor shall review contents of manual with personnel in detail to explain all aspects of operation and maintenance.

1.07 SPARE PARTS AND MAINTENANCE MATERIALS

- A. Contractor shall provide products, spare parts, maintenance, and extra materials in quantities specified in the Specifications and in Manufacturer's recommendations.
- B. Contractor shall provide District all required Operation and Maintenance Data.

PART 2 – PRODUCTS Not used.

PART 3 – EXECUTION Not used.

END OF DOCUMENT

2.6 – CONTRACT CLOSEOUT AND FINAL CLEANING

2.7 OPERATION AND MAINTENANCE DATA

PART 1 – GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Completion of the Work;
- B. Special Conditions.

1.02 QUALITY ASSURANCE:

Contractor shall prepare instructions and data by personnel experienced in maintenance and operation of described products.

1.03 FORMAT:

- A. Contractor shall prepare data in the form of an instructional manual entitled "OPERATIONS AND MAINTENANCE MANUAL & INSTRUCTIONS" ("Manual").
- B. Binders: Contractor shall use commercial quality, 8-1/2 by 11 inch, three-side rings, with durable plastic covers; two inch maximum ring size. When multiple binders are used, Contractor shall correlate data into related consistent groupings.
- C. Cover: Contractor shall identify each binder with typed or printed title "OPERATION AND MAINTENANCE MANUAL & INSTRUCTIONS"; and shall list title of Project and identify subject matter of contents.
- D. Contractor shall arrange content by systems process flow under section numbers and sequence of Table of Contents of the Contract Documents.
- E. Contractor shall provide tabbed fly leaf for each separate product and system, with typed description of product and major component parts of equipment.
- F. Text: The content shall include Manufacturer's printed data, or typewritten data on 24 pound paper.
- G. Drawings: Contractor shall provide with reinforced punched binder tab and shall bind in with text; folding larger drawings to size of text pages.

1.04 CONTENTS, EACH VOLUME:

- A. Table of Contents: Contractor shall provide title of Project; names, addresses, and telephone numbers of the Architect, any engineers, subconsultants, Subcontractor(s), and Contractor with name of responsible parties; and schedule of products and systems, indexed to content of the volume.

- B. For Each Product or System: Contractor shall list names, addresses, and telephone numbers of Subcontractor(s) and suppliers, including local source of supplies and replacement parts.
- C. Product Data: Contractor shall mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.
- D. Drawings: Contractor shall supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Contractor shall not use Project Record Documents as maintenance drawings.
- E. Text: The Contractor shall include any and all information as required to supplement product data. Contractor shall provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.
- F. Warranties and Bonds: Contractor shall bind in one copy of each.

1.05 MANUAL FOR MATERIALS AND FINISHES:

- A. Building Products, Applied Materials, and Finishes: Contractor shall include product data, with catalog number, size, composition, and color and texture designations. Contractor shall provide information for re-ordering custom manufactured products.
- B. Instructions for Care and Maintenance: Contractor shall include Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
- C. Moisture Protection and Weather Exposed Products: Contractor shall include product data listing applicable reference standards, chemical composition, and details of installation. Contractor shall provide recommendations for inspections, maintenance, and repair.
- D. Additional Requirements: Contractor shall include all additional requirements as specified in the Specifications.
- E. Contractor shall provide a listing in Table of Contents for design data, with tabbed fly sheet and space for insertion of data.

1.06 MANUAL FOR EQUIPMENT AND SYSTEMS:

- A. Each Item of Equipment and Each System: Contractor shall include description of unit or system, and component parts and identify function, normal operating characteristics, and limiting conditions. Contractor shall include performance curves, with engineering data and tests, and complete nomenclature, and commercial number of replaceable parts.
- B. Panelboard Circuit Directories: Contractor shall provide electrical service characteristics, controls, and communications.

- C. Contractor shall include color coded wiring diagrams as installed.
- D. Operating Procedures: Contractor shall include start-up, break-in, and routine normal operating instructions and sequences. Contractor shall include regulation, control, stopping, shut-down, and emergency instructions. Contractor shall include summer, winter, and any special operating instructions.
- E. Maintenance Requirements: Contractor shall include routine procedures and guide for trouble-shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
- F. Contractor shall provide servicing and lubrication schedule, and list of lubricants required.
- G. Contractor shall include manufacturer's printed operation and maintenance instructions.
- H. Contractor shall include sequence of operation by controls manufacturer.
- I. Contractor shall provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
- J. Contractor shall provide control diagrams by controls manufacturer as installed.
- K. Contractor shall provide Contractor's coordination drawings, with color coded piping diagrams as installed.
- L. Contractor shall provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.
- M. Contractor shall provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.
- N. Additional Requirements: Contractor shall include all additional requirements as specified in Specification(s).
- O. Contractor shall provide a listing in Table of Contents for design data, with tabbed fly sheet and space for insertion of data.

1.08 SUBMITTAL:

- A. Contractor shall submit to the District for review two (2) copies of preliminary draft or proposed formats and outlines of the contents of the Manual within thirty (30) days of Contractor's start of Work.
- B. For equipment, or component parts of equipment put into service during construction and to be operated by District, Contractor shall submit draft content for that portion of the Manual within ten (10) days after acceptance of that equipment or component.
- C. Contractor shall submit two (2) copies of a complete Manual in final form prior to final Application for Payment. Copy will be returned with Architect/Engineer

comments. Contractor must revise the content of the Manual as required by District prior to District's approval of Contractor's final Application for Payment.

- D. Contractor must submit two (2) copies of revised Manual in final form within ten (10) days after final inspection.

PART 2 – PRODUCTS Not Used.

PART 3 – EXECUTION Not Used.

END OF DOCUMENT

2.8 WARRANTIES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Warranty/Guarantee Information;
- B. Special Conditions.

1.02 FORMAT

- A. Binders: Contractor shall use commercial quality, 8-1/2 by 11 inch, three-side rings, with durable plastic covers; two inch maximum ring size.
- B. Cover: Contractor shall identify each binder with typed or printed title "WARRANTIES" and shall list title of Project.
- C. Table of Contents: Contractor shall provide title of Project; name, address, and telephone number of Contractor and equipment supplier, and name of responsible principal. Contractor shall identify each item with the number and title of the specific Specification, document, provision, or section in which the name of the product or work item is specified.
- D. Contractor shall separate each warranty with index tab sheets keyed to the Table of Contents listing, providing full information and using separate typed sheets as necessary. Contractor shall list each applicable and/or responsible Subcontractor(s), supplier(s), and/or manufacturer(s), with name, address, and telephone number of each responsible principal(s).

1.03 PREPARATION:

- A. Contractor shall obtain warranties, executed in duplicate by each applicable and/or responsible subcontractor(s), supplier(s), and manufacturer(s), within ten (10) days after completion of the applicable item or work. Except for items put into use with District's permission, Contractor shall leave date of beginning of time of warranty until the date of completion is determined.
- B. Contractor shall verify that documents are in proper form, contain full information, and are notarized, when required.
- C. Contractor shall co-execute submittals when required.
- D. Contractor shall retain warranties until time specified for submittal.

1.04 TIME OF SUBMITTALS:

- A. For equipment or component parts of equipment put into service during construction with District's permission, Contractor shall submit a draft warranty

for that equipment or component within ten (10) days after acceptance of that equipment or component.

- B. Contractor shall submit for District approval all warranties and related documents within ten (10) days after date of completion. Contractor must revise the warranties as required by the District prior to District's approval of Contractor's final Application for Payment.
- C. For items of work delayed beyond date of completion, provide updated submittal within ten days after acceptance, listing the date of acceptance as start of warranty period.

PART 2 - PRODUCTS Not Used.

PART 3 – EXECUTION Not Used.

END OF DOCUMENT

2.9 RECORD DOCUMENTS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Documents on Work;
- B. Special Conditions.

PART 2 - RECORD DRAWINGS

2.01 GENERAL:

- A. Contractor shall maintain at each Project Site one set of marked-up plans and shall transfer all changes and information to those marked-up plans, as often as required in the Contract Documents, but in no case less than once each month. Contractor shall submit to the Project Inspector one set of reproducible vellums of the Project Record Drawings ("As-Builts") showing all changes incorporated into the Work since the preceding monthly submittal. The As-Builts shall be available at the Project Site. The Contractor shall submit As-Built pdf files at the conclusion of the Project via email, flash drive or CD as appropriate.
- B. Label and date each Record Drawing "RECORD DOCUMENT" in legibly printed letters.
- C. All deviations in construction, including but not limited to pipe and conduit locations and deviations caused by without limitation Change Orders, Construction Claim Directives, RFI's, and Addenda, shall be accurately and legibly recorded by Contractor.
- D. Locations and changes shall be done by Contractor in a neat and legible manner and, where applicable, indicated by drawing a "cloud" around the changed or additional information.

2.02 RECORD DRAWING INFORMATION:

- A. Contractor shall record the following information (as applicable):
 - (1) Locations of Work buried under or outside each building, including, without limitation, all utilities, plumbing and electrical lines, and conduits.
 - (2) Actual numbering of each electrical circuit.
 - (3) Locations of significant Work concealed inside each building whose general locations are changed from those shown on the Contract Drawings.

- (4) Locations of all items, not necessarily concealed, which vary from the Contract Documents.
- (5) Installed location of all cathodic protection anodes.
- (6) Deviations from the sizes, locations, and other features of installations shown in the Contract Documents.
- (7) Locations of underground work, points of connection with existing utilities, changes in direction, valves, manholes, catch basins, capped stubouts, invert elevations, etc.
- (8) Sufficient information to locate Work concealed in each building with reasonable ease and accuracy.

In some instances, this information may be recorded by dimension. In other instances, it may be recorded in relation to the spaces in the building near which it was installed.

- B. Contractor shall provide additional drawings as necessary for clarification.
- C. Contractor shall provide reproducible record drawings, made from final Shop Drawings marked "No Exceptions Taken" or "Approved as Noted."

PART 3 - RECORD SPECIFICATIONS

3.01 GENERAL:

Contractor shall mark each section legibly to record manufacturer, trade name, catalog number, and supplier of each Product and item of equipment actually installed.

PART 4 - MAINTENANCE OF RECORD DOCUMENTS

4.01 GENERAL

- A. Contractor shall store Record Documents apart from documents used for construction as follows:
 - (1) Provide files and racks for storage of Record Documents.
 - (2) Maintain Record Documents in a clean, dry, legible condition and in good order.
- B. Do not use Record Documents for construction purposes.
- C. Within 30 days, submit "as built" submittals in pdf/CD format including shop drawings, product data, operations and instructions manuals for all products provided, CD's of all systems programming, care and maintenance instructions, service line and online contacts and warranty documents.

PART 5 – PRODUCTS Not Used.

END OF DOCUMENT

2.10 GENERAL NOTES

1. All work shall conform to the Requirements of Title 24 of the California Administrative Code, the Uniform Building Code, Cal-OSHA and State requirements, and the governing Building Authority. All Codes, Standards and Specifications shall be as amended to date, any violation will result in STOPPING of all work until the violation is corrected.
2. The drawings and Specifications describe in General the quality and character of the materials, shape and configuration of improvements and the design intent of the completed work. Miscellaneous items of work, material, equipment, etc., necessary to complete the work shall be provided by the contractor whether or not mentioned in the specifications or shown on the drawings. Specific notes and details shall take precedence over general notes and typical details.
3. Protect existing facilities from damage. Any damage caused by the contractor shall be repaired or replaced at no additional cost to the District.
4. Barricades, sign lights, etc., required for the protection of public personnel, property and material shall be provided by the Contractor for and maintained during performance/execution by the Contractor, and shall conform to all governing codes, ordinances and regulations. The contractor shall employ all means necessary to control dust at and near the site of work and along approach routes to the work site.
5. Provide all tools, transportation, utilities, temporary facilities, storage, debris removal, supplies and other services as necessary for proper execution of the work, and shall assume full responsibility for protection and safekeeping of the elements during performance/execution. The Contractor shall contract the District's representative for designation of the material storage area at the job site.
6. Maintain "Good Housekeeping" practices at the job site. Remove debris promptly from the job site and dispose of at the Contractor's approved dumpsite and removal from the District's site. Leave the job site "Broom Clean" at the end of each workday. Before acceptance by the District's representative, the completed performance/execution shall be cleared, and all other touchup work completed.
7. Field investigate, verify and be responsible for all conditions, elevations and dimensions of the project, as shown on or referenced in the drawings and specifications, and notify the District's representative about any condition requiring modification or change prior to bidding. Examine the drawings and specifications and clear understanding the existing conditions under which the work is to be performed prior to bidding. Entering into an agreement with the District indicates that the Contractor has visited the Site, familiarized themselves with existing conditions and reviewed same with requirements of contract document. No allowances of any kind will be made for any extra cost due to the Contractor's failure to inform the District's representative of discrepancies in time to issue corrective addenda prior to bidding. The contract documents illustrate the intent of the work to be performed.
8. Contractor agrees that in accordance with generally accepted electrical/lighting control practices, contractor shall assume sole and complete responsibility for job site conditions during the course of

performance/execution of the project, including safety of all persons and property; that this requirements shall be made to apply continuously and not be limited to normal working hours.

- ~~9. The existence and locations of any underground utility pipelines or structures shown on these plans were obtained by a search of available records. Use caution in all excavation operations, if applicable.~~
- ~~10. Where elevations of existing utilities are unknown, pothole and verify prior to starting performance/execution. Contact District's representative if there are conflicts with the design.~~
- ~~11. Underground utilities if indicated are for information only. It is the contractor's responsibility to verify the location and depth of all utilities including telephone, water, gas, TV, traffic signal street lighting, etc., with the appropriate agency. Neither the District nor their consultant assumes responsibility that the underground utilities indicated would be those encountered. Contractor shall notify underground service alert (U.S.A. 800-642-2444) 48 hours minimum prior to any excavation.~~
12. Contractor is responsible for coordinating the work to avoid conflicts between sewer laterals, storm drains and water mains, if applicable.
13. It shall be the contractor's responsibility to notify the District's representative of any differences in locations of existing utilities from that shown, or any conflicts with the design before continuing work in that area.
14. Utility connections and disconnections necessary to complete the work shall be performed in such manner in order to minimize utility service interruptions to facility operations in the vicinity of performance/execution site. Coordinate all "Down Time" with the District and with the appropriate agency.
15. Provide adequate cover for the protection of all existing utilities during the performance/execution of this project.
- ~~16. Any permanent monuments or points damaged or destroyed shall be replaced by a licensed engineer or land surveyor at the Contractor's expense.~~
17. Contractor shall coordinate their work with the work under contracts that may be underway concurrently with this project.
- ~~18. Obtain encroachment permits required for working within existing public right of ways. Notify District's representative fourteen (14) days prior to start of work within existing public Right Of Ways.~~
- ~~19. Traffic Control: Prior to beginning any work on existing streets, parking lots, or driveways, advance-warning signs shall be installed. Traffic Control shall be provided in accordance with Caltrans "Manual of Traffic Controls for performance/execution sites and maintenance work Zones" current~~

~~edition and any additional county requirements. Failure to comply may result in immediate stoppage of work until the proper traffic control is in order.~~

20. Provide barricades to protect the general public and prevent uncontrolled access to the site at all times. (As appropriate)
21. Provide for Egress and ingress to on-site facilities that are to remain operational during all phases of the work.
- ~~22. Contractor shall be responsible for matching existing streets, surrounding landscape, and other improvements with a smooth transition in grading to avoid any abrupt or apparent changes in grades or cross-slop, low spots, or hazardous conditions.~~
- ~~23. Wastewater generated during the work shall not be discharged to the storm drain system. The Contractor shall make arrangements to eliminate discharge to the storm drain system and, if necessary, provide an area for onsite washing activities during performance/execution, materials that could contaminate storm runoff shall be stored in areas which are designed to prevent exposure to rainfall and not allow storm water to run onto the area.~~
- ~~24. Flushing of streets and parking lots to remove dirt and debris is prohibited unless proper sediment controls are used. Preferably, areas requiring cleaning should be swept.~~
25. Any revision or additional work required as a result of field conditions or local governing authorities shall be brought to the attention of the District's representative before the work is responsibility of the contractor who shall bear all costs attributable thereto. Any and all revisions shall be in written change order form and approved and authorized by the district before beginning work.

SECTION 11 61 83

PRODUCTION LIGHTING CONTROL

PART 1 - GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Services as listed herein and related to the furnishing and commissioning of production lighting dimming and control system equipment.
 - 2. Providing all low-voltage lighting control system terminations and testing in the field.

1.02 RELATED SECTIONS

- A. Coordinate with the following sections in carrying out this work:
 - 1. Division 1 – General Conditions
 - 2. Division 26 – Electrical
 - 3. Section 26 05 35 – Theatrical Systems Electrical Installation

1.03 REFERENCES

- A. Comply with all national, state and local regulations. In the event of conflict between these specifications and the applicable regulations, the more stringent shall govern.
- B. Equipment shall be provided per the related trade and regulatory guidelines including but not limited to UL, CEC, IEEE, and all manufacturer's recommendations and requirements. Contractor shall be responsible in the event that work under their control voids or jeopardizes manufacturers' warranties.
- C. Labor shall be provided per applicable labor regulations and practices.

1.04 DEFINITIONS

- A. Refer to Div. 1 for definitions.
- B. Theatre's Representative: For the scope in this Section, authorized personnel representing College of Marin and The Shalleck Collaborative, Inc., Theatre Consultants.

1.05 SYSTEM DESCRIPTION

- A. The replacement of a production lighting system for College of Marin Theatre.
- B. The production lighting control system shall be new and complete, and shall control the theatre lighting, architectural and selected work lighting through interface with a DMX controlled motorized breakers.
- C. The system shall be comprised of control panels, control electronics, data network, dimmers, circuit wiring devices.
- D. The production lighting contractor shall provide all low-voltage terminations related to the production and architectural lighting system.
- E. It shall be under the work of this section to provide and mount new multi-cable extension drops for fixed electrics battens onto existing multi-cable management system.
- F. It shall be under the work of this section to provide and mount a dead hung stage apron batten as shown on the drawings and to

1.06 CURRENT TECHNOLOGY

- A. Only the most current hardware and software shall be provided. In no case will discontinued or superseded products be acceptable. If the manufacturer has developed and successfully released products that meet or exceed the criteria within this specification, the Contractor shall notify the Theatre's Representative and submit the new product for review. If accepted, the products will be provided at no additional cost to the Theatre. Software upgrades and authorized support services for its proper integration into the system shall be provided at no cost to the Theatre throughout the warranty period.
- B. In the event of known product defaults or recall, the Contractor shall immediately notify the Theatre and Theatre's Representative and make immediate arrangements for remedy.
- C. None of the stipulations herein shall be grounds for revision to the project schedule.
- D. See related procedures under Warranties in this Section.

1.07 SUBSTITUTIONS

- A. All requests for substitutions from the specified materials, assemblies or related services shall be submitted for review by the Theatre's Representative prior to bid. Substitution requests made after bid shall be neither reviewed nor accepted. Requests shall be made in accordance with Division 1 of the specifications, and in a timely fashion so as to not affect the project schedule in either case of the substitution being accepted or rejected.
- B. Documentation for the substitution shall be submitted with supporting material and shall include the related information for the item as specified so that equivalence can be demonstrated. The burden of proof rests solely upon the Contractor. The Theatre's Representative shall be the sole evaluator of the fitness of the substitution.
- C. All expenses related to the substitution including, but not be limited to, all fees and expenses incurred in the evaluation of the substitution, and any effect on the costs and schedule of other trades whether or not the substitution is accepted, shall be borne by the Contractor.

1.08 SUBMITTALS

- A. Submittals shall be made in accordance with Division 1.
- B. If permitted under Division 1, all submittals shall be made in electronic format.
 - 1. Files shall be in .pdf format, and submitted via email, download, CD or DVD.
- C. Submittals shall be made in a timely fashion so as to not affect the project schedule, and shall allow for adequate time for review and resubmittal. Partial submittals shall not be acceptable and shall be returned without review.
- D. For overhead batten and pit downlight fixture mounting above the stage apron, provide engineering services. Complete shop drawings and relevant calculations shall be fully engineered and bear the stamp of a Structural Engineer licensed in the State of CA.
- E. Submittals shall be reviewed and field dimensions verified prior to commencing acquisition for, and fabrication of the work in this section. All services and parts of the work in this section shall be verified through the submittal process.
- F. Shop Drawings:
 - 1. Submit scaled shop drawings that show the following:
 - a. Installation requirements.
 - b. Full system riser diagram(s) illustrating interconnection of system components, wiring requirements, back box sizes and any special installation considerations.
 - c. Detailed dimmer schedules.
 - d. Detailed circuit and control schedules.
 - e. Detailed product drawings, as applicable to this Project.
 - f. Product Data
 - 2. Submit data sheets for all standard component parts, which shall include all information necessary to verify compliance with this Section.

- G. Samples:
 - 1. Upon 14 days of request by the Theatre's Representative, submit samples for review. Samples may include, but are not limited to: (not electronic)
 - a. Connector, panel and cable assemblies
 - b. Dimmer modules
 - c. Panel finish samples
- H. Record Documents:
 - 1. At time of final acceptance, submit regulatory listings and certifications as required by prevailing building codes.
 - 2. Within 30 days, submit "as built" submittals including shop drawings, product data, operations and instructions manuals for all products provided, CD(s) of control systems programming, care and maintenance instructions, service line and online contacts and warranty documents.

1.09 WARRANTY

- A. Warranty shall provide coverage of material and product defects and assembly workmanship or installation for a period of two years following the date of acceptance by the Theatre.
- B. Items under warranty shall be serviced to the satisfaction of the Theatre with 14 days of notification to the Contractor. If warranty claims are not serviced to the satisfaction of the Theatre within the 14 day period, the Contractor shall bear all costs that arise as a result of the delay, including, but not limited to, the use of temporary replacement components, additional Theatre's staffing or overtime, shipping, cancelled uses or performances.

1.10 QUALITY ASSURANCE

- A. Equipment in this Section shall be provided by specialty subcontractors and manufacturers meeting the qualifications listed herein.
- B. Specialty subcontractor shall have been continuously engaged in the sales and integration of lighting control equipment similar to that specified herein for a minimum of ten years.
 - 1. Manufacturer shall have been continuously engaged in the manufacturing of lighting control equipment similar to that specified herein for a minimum of ten years.
- C. Specialty suppliers shall have at time of bid and continuously maintain throughout the project and warranty period a CA Specialty Contractor's license appropriate for the work in this Section: CA C-61 license with D34-A subcategory classification.
- D. Specialty subcontractors shall have within their employ; manufacturer's factory authorized field services technicians within a four hour travel distance from the Project site.
- E. All equipment shall be UL listed and bear the appropriate labels.

1.11 DELIVERY, STORAGE AND HANDLING

- A. Packing shall prevent damage to the equipment during transit. Costs to repair or replace all equipment damaged during the course of the contract services shall be borne by the Contractor.
- B. Do not deliver materials in this Section until building is ready for installation. Contractor is responsible to properly sequence the work and to protect from damage during delivery, handling, storage and installation.
- C. Contractor is responsible to coordinate and provide secure and protected storage as required for the execution of the Contract.

1. Devices shall not be delivered to the project site until the project is suitably clean and all adjacent finish work that may be painted or produce dust has been completed. The contract shall provide and maintain complete protection of all devices until the project has been made available for occupancy by the Theatre. The Contractor shall thoroughly clean and remove any dirt or dust that infiltrates system components and be responsible for timely replacement of any damaged components.
2. Device labels and connectors shall be delivered with temporary dust and paint protection installed.

1.12 PROJECT CONDITIONS

- A. Defects in the field which may impact the work in this Section shall be reported to the Theatre's Representative and corrected in accordance with the requirements of the applicable Section of work prior to commencement of the work in this Section.

1.13 MAINTENANCE

- A. Provide maintenance stock of User-serviceable components within the system. Maintenance stock shall be packaged in labeled long term storage packaging and turned over to the Theatre at time of system commissioning.
- B. Maintenance stock shall include:
 1. One spare dimmer module of each type in the system.
 2. One spare dimming control module of each type in the system.
 3. Four fuses of each type in the system.
 4. Two control device receptacles and connectors of each type in the system.
 5. Four circuit distribution connectors of each type in the system.
 6. Four cable mount lighting fixture power connectors of each type in the inventory.
 7. Six spare keys of each type in the system.
 8. Components recommended by the Manufacturer.
 9. Any non-standard tools required for User service.

PART 2 - PRODUCTS

2.01 PRE-APPROVED SPECIALTY SUBCONTRACTORS

- A. The following production systems specialty subcontractors have been pre-approved for bidding for the work in this section:

Holzmueller Productions
1000 25th St
San Francisco, CA 94107
Tel. (415) 826-8383
Contact: Jim Schelstrate or Michael Hamlin

Musson Theatrical
890 Walsh Ave
Santa Clara, CA 95050
Tel. (408) 986-0210
Contact: Dave Rimerman or Dinna Myers

Sacramento Theatrical Lighting
950 Richards Blvd.
Sacramento, CA 95814
Tel. (800) 283-2785
Contact: Steve Odehnal or Bobbie Odehnal

- B. All other specialty subcontractors must be approved prior to bid. Other contractors seeking acceptance must submit the following information at least 2 weeks prior to the bid opening date. Approval of contractors will be by addenda. Failure to submit any of the required information will automatically disqualify the contractor from consideration of approval.
 - 1. A listing of five equivalent installations including:
 - a. Name, address and telephone number of Owner;
 - b. Name, address and telephone number of Theatre Consultant;
 - c. Scope of work.
 - d. A brief written description of the contractor's operation including facilities, financial capabilities, and experience of key personnel.
 - e. A statement from a bonding company agreeing to provide the required bonds in the amount required for the project.
- C. Permission to bid does not imply acceptance of the specialty subcontractors. It is the sole responsibility of the contractor for this Section to ensure that any price quotations received and submittals made are for control systems that meet or exceed the specifications.

2.02 MANUFACTURERS

- A. Dimming and control equipment in this Section shall be provided by specialty manufacturers providing products meeting the specifications herein.
- B. Dimming and control equipment in this Section shall be the products of the following pre-approved manufacturers:
 - 1. Electronic Theatre Controls
 - 2. Doug Fleenor Design / Pathway Connectivity (DMX merger/splitter)
 - 3. or equal (no known equal)
- C. All other manufacturers must be approved by the Theatre's Representative prior to bid.
- D. Permission to bid does not imply acceptance of the manufacturer. It is the sole responsibility of the contractor for this Section to ensure that any price quotations received and submittals made are for controls systems that meet or exceed the specifications.

2.03 MATERIALS

- A. All components supplied under this Section shall be new. Used or factory reconditioned components shall not be acceptable.

2.04 CONTROL CONSOLE

- A. Console features shall include a minimum:
 - 1. 10,000 channels
 - 2. 1024 output configuration
 - 3. Dedicated master playback fader pair
 - 4. Dedicated grand master and blackout switch
 - 5. 10,000 cues
 - 6. 4 x 1000 Palettes (Intensity, Focus, Color, Beam)
 - 7. 4 rotary encoders with toggle stage
 - 8. Channel summary or table views, user configurable in live/blind
 - 9. Blind spreadsheet views
 - 10. Direct blind access to all record targets from the face panel
 - 11. Off-line programming software
 - 12. Client/server networking and synchronized backup
 - 13. Supports up to two high-resolution DVI monitors
 - 14. Integral LCD for softkeys and non-intensity parameter control
 - 15. 2 x DMX512 outputs, RDM ready
 - 16. Ethernet output

17. Hard disk memory and USB compatible external storage
18. MIDI In/Out (additional time code functions via external gateways)
19. Contact Closure Triggers
20. Multipurpose USB bus (printer, mouse, keyboard, touchscreens, flash drivers)
21. Audio In/Out

- B. Provide the following control consoles:
1. ETC Ion 1000 with 2x20 fader wing

2.05 CONSOLE ACCESSORIES

- A. Provide the following accessories:
1. One radio remote focus unit and one receiver.
 - a. Mount/install receiver on steel plate and attached to second catwalk. Plug into network port at back of catwalk, provide required network cable.
 - ~~2. One wireless access point~~
 - ~~Mount/install access point on steel plate and attached to PCR on stage. Plug into network port at top of the rack, provide required network cable.~~
 - ~~Standards 802.11 a/b/g/n/ac~~
 - ~~Dual band 2.4 and 5 GHz~~
 - ~~Wireless data rates up to 300Mbps~~
 - ~~Setup to work with user provided IRFR~~
 - ~~8-2.~~ Control Room Monitors & Keyboards
 - a. Provide two monitors for the console.
 - b. Monitors shall be 20" minimum diagonal color touchscreen (if supported by console) flat panel display monitors.
 - c. Monitors shall include vertical and tilt adjustment stand.
 - d. Provide one keyboard & mouse for each console
 - ~~9-3.~~ Two dimmable table top or integrated "Littlelite" worklights.
 - ~~10-4.~~ Power supply and surge protector/UPS capable of maintaining the console and monitor for 15 minutes after power is suspended.
 - ~~11-5.~~ Console power and all control cables shall be 25' long.
 - a. Exception: provide standard length monitor data cables.
 - ~~12-6.~~ Dust covers for console and all monitors.

2.06 PRODUCTION LIGHTING DIMMER RACKS

- A. General
1. The fully digital dimmer rack shall consist of up to 48 dimmer module spaces. Rack systems shall be UL Listed and Approved, and shall be so labeled when delivered to job site.
 2. Electrical
 3. Racks shall operate at up to 120/208V, three phase, four wire + ground, 47 to 63 Hz at 800 amps max. Provide amp trap devices for fault current protection of 100,000 AIC.
 4. All load and neutral terminals shall accept up to a #2 AWG wire.
- B. Electronics
1. Dimmer control electronics shall be contained in modular assemblies that are user-removable without the use of tools.
- C. Physical
1. The dimmer racks shall be a freestanding, deadfront switchboard, substantially framed and enclosed with 16-gauge minimum, formed steel panels. All rack components shall be properly treated, primed and finished. Removable top and bottom panels or knockouts shall facilitate conduit termination on the rack.
 - a. 48-module dimmer racks shall be no larger than 83.1" H x 14.6" W x 22.8" D

- b. Partial racks shall be the same or smaller than full racks.
 2. Dimmer racks shall be mounted on vibration isolation pads. Provide a captive neoprene mount sized for minimum static deflection of 0.20" under dimmer rack load. Neoprene mount shall consist of concentric steel elements separated by neoprene no harder than 50 durometer. Mount shall be capable of acting in tension, compression and shear and shall resist without failure a minimum 1.0 G seismic acceleration in any direction.
 - a. BR by Mason
 - b. or equal.
 3. Racks shall be designed for front access to allow back-to-back or side-by-side installation.
 4. Racks shall be designed to allow easy insertion and removal of all modules without the use of tools. Supports shall be provided for precise alignment of dimmer modules into power and signal connector blocks. With modules removed, racks shall provide clear front access to all load, neutral and control terminations.
 5. Module spaces shall be mechanically keyed to accept only the module type (20A, 50A or 100A) specified for that space. Racks that allow modules of varying wattages to plug into the same space shall not be acceptable. The rack shall be configurable to accept mixed dimmer types and sizes throughout the rack.
 - a. Rack spaces shall be sequentially numbered, unless otherwise noted or approved by the Theatre's Representative. Non-sequentially numbered slots racks shall not be acceptable.
 - b. Partially full racks shall have dimmers divided equally across the three phases, but shall be sequentially numbered with air flow modules between sections.
 6. Each rack shall provide a lockable full-height door containing an integral electrostatic air filter that shall be removable for easy cleaning. A single low-noise fan shall be located within each rack. The fan shall maintain the temperature of all components at proper operating levels with dimmers under full load, provided the ambient temperature of the dimmer room does not exceed manufacturer's recommended operating temperatures. The fan shall turn on whenever any dimmer in the system is activated. In the event of an over-temperature condition, only the affected dimmer module(s) shall shut down and a message shall appear on the control module LCD. The fan shall remain on during thermal shutdown of individual dimmer modules.
 7. An airflow sensor shall be provided. In the event of inadequate airflow, the affected rack shall shut down until the error is corrected.
 8. If the ambient room temperature varies outside of manufacturer's recommended operating temperatures, a warning shall appear on the control module LCD. If the temperature rises above the manufacturer's recommended ultimate operating temperatures, the rack shall shut down until the condition is corrected.
 9. Optional bus kit to connect pairs of rack together shall be supplied and the racks shall be configured per drawings.
 10. Racks shall support Dimmer Doubling.
- D. Acceptable dimmer racks shall be:
 1. ETC Sensor 3

2.07 DIMMER CONTROL ELECTRONICS MODULE

- A. General
 1. Dimmer control electronics shall be contained in one plug-in module that shall be User-removable without the use of tools. The control module shall have power and signal indicators and include a keypad and LCD readout for programming system configuration, testing and diagnostics, rack status and error messages.

2. The dimmer control electronics shall support the use of rack presets enabling the use of multiple architectural lighting control panels without the use of an outboard architectural processor.
- B. Electrical
1. Dimmer control electronics module shall operate at up to 120/208V, three phase, four wire + ground, 47 to 63 Hz. The control module shall automatically compensate for frequency variations during operation.
- C. Electronics
1. Setup display shall allow but not be limited to, configuring of rack addresses, dimmer firing mode, and scale voltage values.
 2. Dimmer outputs shall exhibit no oscillating or hunting for levels. Dimmers set to the same level shall output within $\pm 1V$ of each other, regardless of phase or electronic module control.
 3. Dimmer output shall be regulated for incoming line voltages. The regulation shall adjust for both RMS voltage changes and deformations in the incoming AC waveform. The control module shall monitor and adjust each dimmer's output to maintain a constant power to the load. Regulation shall maintain the desired output voltage $\pm 1V$ for the entire operating range (90-140V AC) with the exception that the maximum output will be no greater than the line voltage minus dimmer insulation loss. The regulation shall compensate for dips and anomalies in the AC waveform on a dimmer-by-dimmer basis. There shall be no interaction between dimmers in the system or any other equipment. The output shall be nominally regulated to 120V, but shall be field adjustable on a dimmer-by-dimmer basis to allow for varying cable length.
 4. Racks shall be configured to normally exchange data via the Ethernet network, with all programming capabilities granted therein.
 5. Two optically isolated DMX512 inputs shall be provided, allowing overlapping or separation of any control level. 2,500V of optical isolation shall be provided between the DMX512 inputs and the control module.
 6. The control module shall be completely digital without employing any digital-to-analog demultiplexing schemes or analog ramping circuits. Each rack shall, in the event of signal loss, maintain the last level for a user-programmable time of zero to five minutes or indefinitely.
 7. The control module shall contain diagnostic routines to allow the user to test and troubleshoot the system. A test/bypass function shall turn all dimmers on to full for testing and shall force the fan on.
 8. A system-wide panic circuit shall be provided. Any dimmer in any rack may be assigned to the panic circuit.
 9. The control module shall be able to record up to 32 backup looks. Backup looks shall be programmable by recording current dimmer levels as set by the console, by entering dimmer levels on the control module directly. When a backup look is active, the DMX512 inputs shall be ignored in the default priority mode.
 10. All system functions may be activated by the control module's integral keypad.
- D. Acceptable dimmer rack electronics modules shall be:
1. ETC CEM+

2.08 DIMMER MODULES

- A. General
1. It shall be the Contractors responsibility to coordinate and provide the appropriate type of dimmer modules for the type or types of loads in this Project.
 2. Non-dim modules shall be capable of controlling inductive loads with no damage to the controlled device. Relay non-dim modules shall be provided where required for the specific loads and where specified.
- B. Electrical

1. Each dimmer module shall contain single-pole circuit breakers for each circuit, a solid-state switching module, associated toroidal filters, and power and control connectors.
 2. Modules shall be keyed so that dimmer modules of different capacity shall not be interchangeable.
 3. Circuit breakers shall be fully magnetic so the trip current is not affected by ambient temperature. Circuit breakers shall be rated for tungsten loads having an inrush rating of no less than 20 times normal current. Circuit breakers shall be rated for 100 percent switching duty applications. Dimmers that do not operate continuously at 100% load shall not be acceptable.
- C. SCR Assembly
1. Each dimmer module shall use a solid state module consisting of two silicon-controlled rectifiers (SCRs) in an inverse parallel configuration, and all required gating circuitry on the high voltage side of an integral, opto-coupled control voltage isolator. Rectifiers, copper leads and a ceramic substrate shall be reflow soldered to an integral heat sink for maximum heat dissipation. The module shall also contain a control LED, a thermistor for temperature sensing, and silver-plated control and load contacts. The entire module shall be sealed in a plastic housing requiring only a screwdriver to replace. Dimmers employing triac power devices, pulse transformers, or other isolating devices not providing at least 2,500V RMS isolation, shall not be acceptable.
 2. All electronic components shall be contained in a single, field-replaceable housing.
- D. Thru Power Modules
1. Modules shall be designed for complete flexibility of choice for dimmed, non-dim, or hot power on each 20A branch circuit.
 2. A single ThruPower module shall provide:
 3. Two dimmed outputs with 500 us rise times, controlled by DMX, or
 4. Two air gap relay switched outputs controlled by DMX, or
 5. Two manual bypass constant power circuits controlled manually
 6. Status Reporting:
 7. The power control system shall report circuit specific errors via the rack control electronics and/or via a lighting control console.
 8. Modules shall provide the following status reporting functions:
 - a. Load dropped below recorded value
 - b. Load increased over recorded value
 - c. DC on dimmer output
 - d. SCR failed on/off
 - e. Circuit breaker tripped
 - f. Dimmer error
 - g. ThruPower module removed
 - h. Load absent
- E. Electrical
- a. Each ThruPower module shall contain
 - b. two circuit breakers
 - c. SCR solid-state dimming
 - d. toroid filters
 - e. power and control connectors
 - f. 120VAC remotely controllable mechanically latching air gap relay
 - g. Low voltage dc manual bypass override switch
 - h. 1 fuse per branch circuit for sufficient short circuit rating
 2. Modules that use Triac dimming shall not be acceptable. Modules which utilize an SCR or triac solid state switch as a dimmer bypass may void warranty of products they are powering and shall not be an acceptable means of bypass.

3. Modules shall not have any protruding pins subject to physical damage when the module is not installed.
 4. Modules shall be keyed so that modules of different capacity shall not be interchangeable.
 5. Circuit breakers shall be fully magnetic so the trip current is not affected by ambient temperature. Circuit breakers shall be rated for tungsten loads having an inrush rating of no less than 20 times normal current. Circuit breakers shall be rated for 100 percent switching duty applications. Dimmers that do not operate continuously at 100% load shall not be acceptable.
- F. Filtering
1. Dimmer modules shall include toroidal filters to reduce the rate of current rise time resulting from switching the SCRs. The filter shall limit objectionable harmonics, reduce lamp filament sing and limit radio frequency interference on line and load conductors.
 2. All dimmers shall maintain their published rise time and/or fall time regardless of duty cycle or rack temperatures.
 3. Variations in dimmer module rise time configurations shall not change the dimmer rack density.
 4. Rise Time
 - a. "Hafcaf" dimmer filters shall have a rise time of not less than 350 μ s (microseconds). Rise time shall be measured at 90° conduction angle from 10% to 90% of the output wave form with the dimmer operating at full load. Voltage rate of rise (slew rate) must not exceed 420 millivolts per μ s in any point of the wave under full load conditions.
 - b. "Regulah" dimmer filters shall have a rise time of not less than 500 μ s (microseconds). Rise time shall be measured at 90° conduction angle from 10% to 90% of the output wave form with the dimmer operating at full load. Voltage rate of rise (slew rate) must not exceed 300 millivolts per μ s in any point of the wave under full load conditions.
 - c. "Doubleshot" dimmer filters shall have a rise time of not less than 800 μ s (microseconds). Rise time shall be measured at 90° conduction angle from 10% to 90% of the output wave form with the dimmer operating at full load. Voltage rate of rise (slew rate) must not exceed 210 millivolts per μ s in any point of the wave under full load conditions.
 5. For the work in this Section, provide the following module types:
 - a. Thru Power "Regulah" dimmers for all production lighting circuits.
 - b. Standard "Regulah" dimmers for all house lighting circuits.
- G. Performance
1. Power efficiency for standard dimmers shall be at least 97 percent at full load with a no-load loss of 3V RMS for Hafcaf dimmers, and commensurate for other types. The dimmer shall accept hot patching of a cold incandescent load up to the full rated capacity of the dimmer.
- H. Physical
1. Dimmer modules shall be fully plug-in and factory wired. Dimmer modules shall consist of a heavy duty, metal chassis. No tools shall be required for module removal and insertion. All parts shall be properly treated, primed and finished in epoxy powder coat. Dimmer modules shall be UL listed and labeled.
- I. Acceptable dimming modules shall be:
1. ETC Sensor Thru Power
 2. ETC Sensor Dimming Module
 3. (no known equal)

2.09 ARCHITECTURAL DIMMER RACKS

A. General

1. The fully digital dimmer rack shall consist of up to 12 dimmer module spaces. Rack systems shall be UL Listed and Approved, and shall be so labeled when delivered to job site.
- B. Electrical
1. Racks shall operate at up to 120/208V, three phase, four wire + ground, 47 to 63 Hz at 200 amps max. Provide amp trap devices for fault current protection of 100,000 AIC.
 2. All load and neutral terminals shall accept up to a #2 AWG wire.
- C. Electronics
1. Dimmer control electronics shall be contained in modular assemblies that are user-removable without the use of tools.
- D. Physical
1. The dimmer rack shall be a wall mounted and substantially framed and enclosed with 16-gauge minimum, formed steel panels. All rack components shall be properly treated, primed and finished. Removable top and bottom panels or knockouts shall facilitate conduit termination on the rack.
 - a. 12-module dimmer racks shall be no larger than 27" H x 17" W x 10" D
 2. Racks shall be designed for front access to allow back-to-back or side-by-side installation.
 3. Racks shall be designed to allow easy insertion and removal of all modules without the use of tools. Supports shall be provided for precise alignment of dimmer modules into power and signal connector blocks. With modules removed, racks shall provide clear front access to all load, neutral and control terminations.
 4. Module spaces shall be mechanically keyed to accept only the module type (20A, 50A or 100A) specified for that space. Racks that allow modules of varying wattages to plug into the same space shall not be acceptable. The rack shall be configurable to accept mixed dimmer types and sizes throughout the rack.
 - a. Rack spaces shall be sequentially numbered, unless otherwise noted or approved by the University's Representative. Non-sequentially numbered slots racks shall not be acceptable.
 - b. The rack loads shall be balanced across the three phases with architectural dimmers interspersed within the body of the dimmers.
 5. Each rack shall provide a lockable full-height door containing an integral electrostatic air filter that shall be removable for easy cleaning. A single low-noise fan shall be located within each rack. The fan shall maintain the temperature of all components at proper operating levels with dimmers under full load, provided the ambient temperature of the dimmer room does not exceed manufacturer's recommended operating temperatures. The fan shall turn on whenever any dimmer in the system is activated. In the event of an over-temperature condition, only the affected dimmer module(s) shall shut down and a message shall appear on the control module LCD. The fan shall remain on during thermal shutdown of individual dimmer modules.
 6. An airflow sensor shall be provided. In the event of inadequate airflow, the affected rack shall shut down until the error is corrected.
 7. If the ambient room temperature varies outside of manufacturer's recommended operating temperatures, a warning shall appear on the control module LCD. If the temperature rises above the manufacturer's recommended ultimate operating temperatures, the rack shall shut down until the condition is corrected.
- E. Dimming Modules
1. Provide modules in types and quantities as needed to match existing load types.
- F. Acceptable dimmer racks shall be:
1. ETC Unison DRd Series with the following:
 - a. 0-10v option
 - b. RideThru option

- c. Paradigm Station Power option
- 2. Or equal (no known equal).

2.10 PRODUCTION RELAY PANELS

- A. Provide wall mounted relay panel for production lighting relay circuits.
- B. General
 - 1. Panel shall be UL 508, UL924 and UL67 listed and so labeled.
 - 2. The panel shall receive ESTA DMX512-A control protocol. Addressing shall be set via the user interface button keypad with any circuit patched to any DMX control address.
 - a. 2,500V of optical isolation shall be provided between the DMX512 inputs and the control electronics as well as between control and power components.
 - 3. Panel shall be provided in 12, 24 or 48 circuits as shown on drawings.
 - a. Panel shall support dual and three pole circuits at decreased density where each pole constitutes one of the available single pole circuits
 - b. Single, Dual or three pole circuits shall be mixed as required for the circuiting shown on the drawings.
- C. Electrical
 - 1. Breakers and relays shall be rated to 100% electrical load.
 - 2. Branch circuits shall be 20a unless noted otherwise.
 - 3. Breaker output lugs shall accept 10-14 AWG dual conductor wire
 - 4. Panel shall be fed by 120/208v Three phase, 4-wire plus ground input feeder.
 - 5. Panels shall include a main breaker. See electrical drawings for breaker sizing.
- D. Mechanical
 - 1. The panels shall be set up for wall or flush mounting and supplied with cover.
- E. Function
 - 1. Panel shall be user programmable.
 - 2. Circuits shall be individually addressable.
- F. Provide with the following Breaker Panel Accessories
 - 1. Ethernet Option shall provide advanced control of breakers over streaming ACN (sACN) and transmit status, control override, and measured energy usage per branch circuit to web browser based interface or central monitoring interface
 - 2. A Contact Input Option shall allow 24 dry contact inputs to be linked for direct or group breaker control, to activate a preset, or to activate a sequence. Controller software shall allow for normally open maintained, normally closed maintained or momentary toggle.
 - 3. A RideThru Option shall provide short-term power backup of control electronics by automatically engaging when power is lost, and recharging when normal power is present
 - 4. A Tamperproof Hardware Kit shall include center reject Torx head screws to prevent access to panel interior by unqualified individuals
 - 5. Main Breaker options
- G. Panel shall be of the same manufacturer as the architectural control system.
- H. The wall mount relay panel shall be the Sensor IQ Relay Panel as manufactured by Electronic Theatre Controls, Inc.
- I. Provide the following options:
 - 1. Ethernet Option
 - 2. RideThru Option
 - 3. Main Breaker

2.11 ARCHITECTURAL CONTROL ELECTRONICS

- A. Provide control electronics with memory capacity and performance as required to meet the functions within these specifications.
 - 1. The system shall permit control of any dimmer on the system by the Control Console or any other DMX512 controller, or the Preset Panels as specified below on a last action basis.
 - 2. Racks shall be configured to normally exchange data via the Ethernet network, with all programming capabilities granted therein.
 - 3. Two optically isolated DMX512 inputs shall be provided, allowing overlapping or separation of any control level. 2,500V of optical isolation shall be provided between the DMX512 inputs and the control module.
 - 4. The system shall send control signal to low voltage relay panels as specified. Architectural control electronics may be housed within or external from dimmer racks.
 - 5. Provide options/modules as necessary to accept an RS-232 control connection from the AV control system.
 - 6. Products shall be
 - a. ETC Paradigm Architectural Processor
 - b. or equal (no known equal)

2.12 LIGHTING CONTROL ETHERNET NETWORK COMPONENTS

- A. Network general specifications:
 - 1. The lighting control system shall operate on an Ethernet TCP/IP based network, with all components and procedures meeting IEEE standard specification 802.3af-2003, for Power over Ethernet, 10/100BaseT and/or 10/100Base FL.
 - 2. The network shall support multiple consoles, computers, file servers, printers, and architectural processors with discrete command lines and control. The network shall support multiple venues/systems on the same network.
 - 3. Device configuration selection, manufacturing, installation shall be accomplished to assure a flexible and robust system for the prevention of data interruption and ease of User maintenance and diagnostics.
 - 4. ESTA ACN protocol shall be supported.
- B. Network Nodes
 - 1. DMX and other lighting control data shall be inserted and retrieved on the Ethernet network via protocol translation nodes.
 - 2. Each DMX Node shall have LEDs for indication of power, network activity, and DMX port configuration. Those LEDs used for DMX port configuration indication shall also indicate the presence of valid DMX/EDMX signal.
 - 3. Network configuration shall be via production lighting control manufacturer's configuration software. The software shall permit complete user flexibility allowing the system operator to patch DMX data over Ethernet DMX (EDMX), assign node labels for easy identification, assign RFUs to specific systems in multi-system networks, assign DMX offsets and provide DMX port prioritization. Each node shall have a specific IP address provided automatically by the software. The user may edit this IP address. Systems that do not support simple Windows configuration, or systems that do not allow complete reconfiguration of the above mentioned features over Ethernet shall not be acceptable.
 - 4. All configuration data for each network device shall be held at the device and system operation shall not require continuous on line operation of the network configuration software.

5. Systems connected to the same network shall be capable of arbitrating control over EDMX data. The system shall be capable of alternating control of individual dimmer data between architectural and production lighting systems without intervention by the user. The user shall dictate the conditions under which system shall automatically take control and the network shall allow user override of the user selected defaults. Systems which require direct user intervention to allocate control of dimmers between architectural and production lighting systems shall not be allowed.
 6. The network shall allow multiple DMX inputs assigned to the same EDMX range to be set at different priorities. This shall allow the user to assign high or low priority to each DMX input port in the network on a port by port basis. The network shall require a valid DMX signal present at the input to initiate prioritization. Systems that do not allow for prioritization shall not be allowed.
 7. Each DMX Node shall control up to 2048 DMX addresses, within the confines of up to 64 DMX (32,767 EDMX address) "universes". The specific DMX data input or output by the Node shall be freely configurable by the user. Duplicate outputs of DMX lines (DMX splitter) and discrete outputs shall be fully supported. Multiple sources may be combined and a priority may be assigned to each source. Each DMX line may have its own start address and offset for ease of use. DMX ports shall be configurable for either input or output.
 8. Maximum delay time from input to output shall not be greater than one packet time (approximately 30 mSec.). A minimum DMX update rate of 40Hz shall be sustained under all conditions.
 9. Power for the nodes shall be provided over the Cat5 cable, as PoE as specified herein. The node electronics shall be electrically isolated from the power supplied over the Cat5 cable.
 10. DMX inputs shall be fully opto-isolated from the node electronics and from each other. DMX outputs shall be earth-ground referenced. DMX Ports shall be capable of withstanding fault voltages of up to 250VAC without damage.
- C. Control Equipment Rack (CER)
1. Rack general assembly:
 - a. Provide industry standard 19" equipment rack for all necessary control equipment specified herein.
 - b. Wall mounting with fixed back plane swing out front section for access. Hinges shall be placed on the side appropriate to the mounting condition. Verify in field.
 - c. Mounting brackets shall be 14 gauge steel
 - d. Engraved label riveted to the case front with the name of the rack as shown on drawings. Rack label characters shall be 1/2" high.
 - e. Bottom air vents and rear knockouts for conduit entry.
 - f. All unused sections shall be covered with vent panels no taller than 2 rack units (R.U.).
 - g. Rack to be configured as shown on Drawings mounted with all controls within wheelchair chair reach as required by the ADA and local codes.
 - h. Powder coat finish: Black
 - i. Body and Back pan shall be 18 gauge Steel
 - j. Rackrail shall be 11 gauge steel
 - k. Rack shall be Middle Atlantic Products model DWR, or equal
- D. Switches
1. Provide Power Over Ethernet (PoE) 24-port and 12-port 100Mbps Ethernet switches in quantities as required, configured appropriately.
 - a. HP Procurve 2610 series PoE switch or similar that is as quiet as possible. (HP 2610 is rated at 53 dB SPL)
 - b. Or equal

- E. Provide network patch panels for the termination of network taps. Label each point as shown on drawings.
- F. Provide patch cables as required for the inter connection of the system.
- G. Fixed Ethernet Node Gateways
 - 1. Fixed nodes shall be provided in quantities and types required for a complete and operational system.
 - 2. CER network patch port number shall be engraved in the faceplate to identify the network port the unit is connected.
 - 3. Provide ETC N31G for all PLC devices as shown on drawings.
 - ~~0. Provide ETC N34G Four port rackmount for LED house light gateway~~

H. Portable Ethernet Nodes

- 1. Each node shall incorporate two 5-pin XLR type DMX connectors. Output connectors shall utilize female connectors and input connectors shall utilize male connectors, but directionality is re-configurable using the configuration software and connector adapters.
- 2. Nodes shall incorporate a backlit graphic LCD display for identification (soft-labeling) and status reporting. Labeling shall be user configurable using configuration software.
- 3. The node faceplate shall be constructed of durable cast aluminum. Faceplates manufactured of plastic shall not be acceptable. Nodes shall be provided in matte black finish.
- 4. Portable nodes shall be provided mounted in a rugged enclosure with yoke and cast C-clamp for mounting. RJ-45 connector shall be XLR type, Neutrik Ethercon Series Connectors.
- 5. Each node shall be supplied with one 10' Cat5 patch cable with XLR type, Neutrik Ethercon Series Connectors.
 - a. Provide six (6) portable node assemblies.
 - b. Provide (1) additional node assembly for use at the apron lighting pipe.
 - c. Each node shall be supplied with one 10' Cat5 patch cable with XLR type, Neutrik Ethercon Series Connectors.
 - d. Provide industry standard roadcase with casters and handles. Provide with individual compartments for nodes, and storage compartment for cables.
 - e. Provide with black safety cable.

2.13 CONTROL RECEPTACLE PANELS

- A. General
 - 1. The control receptacle panels shall consist of the appropriate connectors required for the system this Project.
- B. Connectors
 - 1. The control receptacle panels shall include for following connector types, per industry standard:
 - a. RJ-45 XLR type, Neutrik Ethercon Series Connectors for Cat5, configured to accept standard RJ-45 connectors.
 - b. 5-Pin male and female XLR connectors for DMX input/output per industry standard
 - c. 120VAC Edison convenience power outlets with integral surge-protector.
 - d. Other receptacle types as appropriate per manufacturer's standard features.
 - e. 3 Pin XLR for Leon Audio 16 channel cue light system.
- C. Physical
 - 1. Faceplates shall be .080" aluminum, edges eased, finished in fine texture, scratch-resistant powder coat, with fasteners countersunk.

- a. Panels specified as flush mounted shall overlap back box by 1/2". Surface mounted panels shall match back box size with no gaps or overlap.
 - b. Provide all back boxes and coordinate mounting with Div. 26.
 2. Color shall be black unless otherwise noted.
 3. Panels noted as custom color shall be factory powder coated a color selected by the Theatre's Representative. Engraving shall be filled a contrasting color.
 4. Engraved and filled labels 1/8" high characters minimum, filled shall be white unless otherwise noted.
 - a. Network taps and node gateways shall be labeled per the patch bay location and point number as shown on schedule.
 5. Wall mounted panels shall mount into an industry standard back box, depending on size and quantity of connectors. A terminal block shall be supplied for terminations.
 6. Rack mounted panels shall mount within industry standard equipment racks. Provide local breaker for integral AC power receptacle per Code.
 7. Panels mounted in floor boxes shall include a clear flexible vinyl dirt guard as shown on drawings. Guard shall cover receptacles but not labels.
 8. Provide complete hardware for mounting on gridiron hangers where shown per the Drawings.
- D. Floor Box:
1. Provide new interior connection panels to retrofit into existing cast-iron type floor boxes.
 2. Provide interior, flexible clear vinyl dirt guard to cover receptacles. Labels must remain visible.
 3. Type "FB" center audience floor box shall be FSR FL-500P or FL-600P flush black cover or equal.
- E. Grid iron terminal box for control devices type "ET"
1. Provide terminal boxes factory wired with connectors and numbered terminal blocks and for field connection by others, as indicated in the drawings and schedules.
 2. Sheet metal construction, finish flat black. Engraved lamicoïd labels as shown on drawings.
 3. Ethernet cable extensions shall be touring grade jacket with shielding adequate for bundling with dimmed circuit multicable. Provide ethercon connectors at both ends.
 - a. Provide flexible robust stranded CAT5e cable as shown on drawings to each connector strip or orchestra lift. Provide Gepco or equal.
 - b. Provide with one offset eye basket weave strain relief sized for full grip on cable and standard lighting fixture safety cable for dead off at the gridiron and bottom of orchestra lift.
 - c. Provide black cable ties for dressing to multi-cable bundle drop to the electrics.
 - d. Provide with basket weave strain relief at both ends.

2.14 ARCHITECTURAL CONTROL PANELS

- A. Architectural control panels shall be able to control any of the following:
 1. Theatre theatrical lighting dimmers
 2. Theatre architectural lighting dimmers and non-dims
 3. Lighting circuits on relays
- B. Architectural control panel wiring shall be digital, low voltage wiring that shall be topology free. Panels shall be interactive with each other as described herein.
- C. Physical

1. Faceplates shall be .080" aluminum, edges eased, finished in fine texture, scratch-resistant powder coat, with fasteners countersunk.
 - a. Panels specified as flush mounted shall overlap back box by 1/2". Surface mounted panels shall match back box size with no gaps or overlap.
 - b. Provide back box and coordinate mounting with Div. 26.
 2. Color shall be black unless otherwise noted.
 3. Panels noted as custom color shall be factory powder coated a color selected by the Theatre's Representative. Engraving shall be filled a contrasting color.
 4. Engraved and filled labels 1/8" high characters minimum, filled shall be white unless otherwise noted.
 5. Wall mounted panels shall mount into an industry standard back box, depending on size and quantity of connectors. Back boxes shall not exceed 4" in recess depth. A terminal block shall be supplied for terminations.
 6. Rack mounted panels shall mount within industry standard equipment racks.
- D. LCD Touchscreen
1. Rear illuminated LCD touch screen with all standard advertised features.
 - a. Acceptable devices:
 - b. ETC Unison Paradigm LCD touch screen
 2. Provided, immediately adjacent to LCD Panels.
 - a. One illuminated, momentary contact "ENTRY PANEL LOCKOUT" pushbutton. The pushbutton shall cause Theatre one-button panels to be inoperative when pressed once and all "LOCKOUT" pilot lights shall illuminate. The pushbutton shall remain lit so long as the "LOCKOUT" status is maintained. "LOCKOUT" status shall be activated or deactivated at any "LOCKOUT" pushbutton, regardless of the last action. Action on an illuminated pushbutton in "LOCKOUT" mode will release the preset panels for operation and the pilot light shall go out. Action on the lockout button shall not cause any change in level status. This button shall have no effect on the controls outside of the Theatre.
 - b. One on/off button to turn on general worklights and rehearsal lights to be programmed at time of commissioning
- E. LCD Panel Operations
1. The following should be used as a basis for the initial soft programming of the architectural control stations. The configuration shall be verified with the Theatre's Representatives at time of commissioning.
 2. LCD panels shall be programmed with soft pages for access to various areas and levels of control.
 - a. Virtual pushbuttons shall indicate state by a change in appearance. Controls shall be though various pages of controls.
 - b. Access shall be divided into two security levels minimum. The panels shall "home" to a first level of access which allows the User to play presets changing the levels of the areas shown on the display, without login. The first level of access shall not allow the programming of presets.
 - c. The program function shall become available as a "record" button on the same preset playback screens upon login to the second level with a four digit pass code on a virtual keypad. The pass code shall initially be set as "4100". The login screen shall be a back page visible as a first level page choice, and shall include a "logout" pushbutton which shall return the panel to the first level. "Logout" from the second level shall automatically occur after 30 minutes of inactivity.
 - d. The LCD shall be used to program the multi-button and one-button pushbutton preset panels.

- e. The system shall allow the programming of presets and macros through a “snapshot” procedure. Levels shall be set by the control console, by soft sliders at the LCD panel or at the dimmer rack and then captured as a preset to be replayed at any one of the preset buttons.
 - f. The first page shall be called “House Presets” and shall contain the same number and function of preset buttons as the multi-button preset stations specified herein.
 - g. The second page shall be called “Work/Reh” and shall have buttons for the various areas of the theatre’s technical areas and the rehearsal groups. The work light buttons shall include control the low voltage relay circuits as well as production circuits selected as rehearsal lights. If the architectural control system does not receive status information back from the relay cabinet, then separate on and off buttons shall be shown, and the “off” button shall activate a macro that pulses the channel on then off, so the indicators on the panel match the channels’ state.
 - h. The third page shall be called “Show Presets” and shall include ten buttons, named as directed by the Theatre’s Representative at time of programming.
 - i. The next page shall only be visible at the second security level and shall be used to program the one-button entry stations.
 - j. The next pages shall include sliders for each architect control group as listed in the architectural lighting dimming schedule.
- F. Portable LCD Touchscreen Panel
- 1. Portable touchscreen shall be a table top unit with integral folding cover/stand or protective case.
 - 2. Operations shall be as specified above for LCD or Touchscreen Panels.
 - 3. Exception: Entry station lockout and on/off button shall not be included in this panel.
 - 4. Power and control data shall be carried in a single cable. Cable shall be detachable.
 - 5. Quantity: Provide 1 panel assembly
 - 6. Cables: Provide one 10’-0” cable and one 25’-0” cable.
- G. Multi-Button and One-Button Panels
- 1. Pushbutton stations shall include programmable buttons with integral LED indicators.
 - 2. Multi button panels shall include a card holder with slide-in tags and clear cover for User labeling.
- H. Preset Panel Operations
- 1. The system shall allow the programming of presets and macros through the LCD as described above.
 - 2. Action on any one button shall cause all identical pushbutton indicators on other panels to mimic the preset state.

2.15 WIRING DEVICES

- A. Provide power distribution wiring devices in the quantities, types and configurations as shown on drawings. All back boxes shall be supplied by production lighting contractor and manufacture.
- B. Devices shall be fabricated from 18 gauge cold rolled steel with 16 gauge covers, finished with flat black powder coat unless otherwise noted. Devices shall be UL listed and labeled for the use specified herein.
 - 1. Back box shall not exceed 6-1/2” high x 4” deep x the widths as shown on drawings.
 - 2. Panels specified as flush mounted shall overlap back box by 1/2”. Surface mounted panels shall match back box size with no gaps or overlap.

- C. Receptacles and connectors shall all be of the same manufacturer and be fully black.
 - 1. Connector type: Provide 20A theatre industry standard 3-pin connectors throughout.
 - a. Connectors shall be of the same manufacturer throughout the project to minimize maintenance stock.
 - b. Connectors shall be Bates, Union, Pro-Pin or equal
- D. Receptacles and connectors shall be factory pre-wired to internal feed through terminal blocks and grounded. All wiring and terminals shall be factory numbered. Size all lugs as required based on wire size indicated on the Electrical Drawings. Provide for dedicated neutrals within each device and homerun. Terminals shall be clamp-type compression terminals appropriately listed.
 - 1. All parallel circuits, if applicable shall homerun to the dimmer rack, unless otherwise noted.
- E. Circuits shall be labeled with engraved lamicooid tags with 1/2" high characters securely riveted to the box and plainly visible. Label color shall be:
 - 1. Production lighting circuits, dimmer per circuit: black tags with white core.
 - 2. House Light outlet circuits shall be labled house lights with circuit number.
- F. Pigtails shall be of neoprene covered, black, heavy duty SO, SOW or better three-wire 12/3 cable. Internal wiring shall be sized to circuit ampacity and shall be rated at 125°C. Provide heavy duty strain relief at box entry. Visible leads shall not be acceptable.
 - 1. Provide pigtail lengths as shown on drawings.
 - 2. In addition to box labels, pigtails shall be labeled with 1/2" high minimum black characters on white background sleeves, protected and securely affixed under clear heat shrink tubing. Pigtail label assembly shall be applied 6" above the connector.
- G. Provide with all necessary mounting hardware as shown on Drawings and as required.
- H. All 6-circuit multi-pin receptacles shall be wired per USITT industry standard for 19-pin connectors.
- I. Connector strips shall be provided as configured on Drawings.
 - 1. Provide with integral or adjacent lighting data and power outlets as shown. Data wire shall be mechanically separated.
 - 2. Provide mounting and electrics batten clamps in quantities and configurations as shown on Drawings.
 - 3. Provide 1-1/2" sch 40 pipe with internal splice sleeves and rigid drop forged pipe clamps to support the connector strip between the hangers.
 - 4. Provide flexible multiconductor extension cables of S or SO neoprene covered cable with the number of conductors in accordance with prevailing electrical codes. Provide 2 conductors for each circuit, plus grounds, rated for 20A, 125V.
 - 5. Coordinate lengths with Production Rigging Sub-Contractor, under Section 116133.
 - 6. Provide multi cable extension drops as specified below.
- J. Multicable Plug Boxes:
 - 1. Multicable plug boxes shall include female 6-circuit, heavy-duty, locking multipin receptacle(s) which mate to multi-cables specified below.
 - 2. Provide threaded couple/uncouple panel mount multi-pin connectors.
 - 3. Contacts shall be manufactured from copper alloy with hard silver or gold plating.
 - 4. Backshells shall provide minimum 1" of wiring space.
 - 5. Multipin receptacles to be Socapex compatible as manufactured by Veam, Pyle-National or equal and as appropriate for the theatre industry's standards in the project's immediate region.
 - 6. Label shall include each circuit number preceded by an "A-" through "F-" designation.
 - 7. Provide pigtail and basket weave strain reliefs as shown on Drawings.

8. Provide robust tie-off devices as shown on Drawings.
- K. Terminal Boxes, Type "T" general:
 1. Provide terminal boxes factory wired with numbered terminal blocks for field connection by others, as indicated in the Drawings and schedules. Provide 6 spare terminals in each terminal box in addition to the circuits indicated in the Drawings. Provide with ground lugs bonded to the box.
 - a. Terminals and circuiting shall include dimmed circuits, relay as well as integral constant AC power as indicated on drawings.
 2. Reinforce base of terminal boxes as required to take load from multicable.
 3. Terminal boxes for Drop Boxes, and Connector strips shall include multiconductor extension drops as specified below.
 4. Terminal box to be clearly labeled with circuit numbers.

2.16 MULTICABLE EXTENSION DROPS

- A. Provide flexible multiconductor extension cables drops:
 1. Cables shall be of heavy duty SO, neoprene covered cable with the number of conductors in accordance with prevailing electrical codes. Provide 2 conductors for each circuit, plus grounds, rated for 20A, 125V.
 2. Provide min. four (4) spare conductors per batten.
 3. Provide for:
 - a. Connector Strips on fixed electrics battens, devices Type "CS"
 - b. Drop Boxes, Device type "DB"
- B. Coordinate lengths with Production Rigging Sub-Contractor, under Section 116133. Provide lengths sufficient to allow battens to travel to the floor.
- C. Strain relief:
 1. Provide "Hubbell Kellems Deluxe" or equal (no known equal) cord type grips correctly sized to restrain multicable at connection to devices.
 2. Provide "Hubbell Kellems Heavy Duty, Single Eye, Closed Mesh Strain Relief" at cord connection point to gridiron as shown on drawings.
 - 2-3. Provide intermediate "Hubbell Kellems Heavy Duty, Single Eye, Closed Mesh Strain Relief" or equal (no known equal).
 - 3-4. Provide 1 rated shackle for each eye.
 - 4-5. Provide 1 standard safety cable for each strain relief.
- D. Coordinate installation with Production Rigging Sub-Contractor, under Section 116133 and with division 26.
- E. Provide with all necessary mounting hardware as shown on drawings and as required.

2.17 DEAD HUNG BATTENS

- A. Provide dead hung batten over stage apron as shown on drawings.
- B. Provide all necessary mounting hardware as shown on drawings.
- C. Contractor shall evaluate the existing conditions and suggest alterations or confirm mounting method prior to shop drawing submittal or engineering.
- D. Mount to the underside of the catwalk using rated components. Provide schedule 40 pipe or unistrut strong back as required to locate lift lines at the correct and precise locations. Muleling or diverting of lift lines will not be acceptable.
- E. Drop Cables:
 1. All Drop cables shall be 1/4" diameter.
 2. Batten terminations shall be:
 - a. Pipe clamp
 - b. Turnbuckle
 - c. Wire rope thimble
 - d. One compression sleeves

- e. Heavy black heat shrink tubing over cable ends
- 3. Hanging point terminations shall be:
 - a. Rated eyebolt, mounted into underside of unistrut.
 - b. Rated Shackle
 - c. Wire rope thimble
 - d. One compression sleeves
 - e. Heavy black heat shrink tubing over cable ends
 - f. Forged and galvanized shackle rated for full working load plus factor of safety, with cotter pin on inward side.
- 4. Fittings as specified below.
- 5. Adjust pipes so the pipe is aligned straight and level.
- F. Cable Fittings:
 - 1. Swaged sleeve fittings shall be copper Nicopress. Swaged fittings shall be installed per the fitting manufacturer's instructions, using the appropriate tools, and checked with a "go/no-go gauge".
 - 2. Eyes shall be formed over galvanized wire rope thimbles of correct sizes.
- G. Turnbuckles:
 - 1. Cotter pin jaw-jaw with 6" throw, drop forged and galvanized. Turnbuckles shall be moused after adjustment to prevent loosening.
- H. Pipe Clamps:
 - 1. Pipe clamps shall be made of two strips of 12 Ga. by 2" hot rolled steel formed to encompass and clamp the pipe batten to prevent its rotation. Corners shall be rounded.
 - 2. There shall be a 3/8" x 1" hex bolt with lock nut above and below the batten. A 5/8" hole in the top of each clamp half allows the attachment of cable, chain, or other fittings.

2.18 PIT DOWNLIGHTS MOUNTING

- A. Provide bracket for approximately (15) pit downlights, to replace existing incandescent downlights, as shown on drawings.
 - 1. Verify quantities in field.
- B. Downlights shall be Owner Furnished
- C. Provide steel mounting brackets which shall mount fixture using the fixtures integral yoke center mounting bolt hole.
- D. Bracket shall allow for full fixture rotation without impacting the shutter. Fixture shall mount 1" above the open measure when barrel is at full extension, to allow access to the front accessory slots.

2.19 WORKLIGHTING FIXTURES

- A. Provide and install LED worklights
 - 1. Provide (16) sixteen Osram Kreios FL 60 watt LED worklights
 - 2. Provide with c-clamp and safety cable.
 - 3. Housing shall be black
 - 4. Provide with connectors to match the receptacles in the system.
 - 5. Install (4) per electric's batten and (4) on the second catwalk, evenly spaced.
 - 6. Provide SO cable and connectors to connect four lights together to a single relay circuit on each electric batten.

2.20 LOW-VOLTAGE TERMINATIONS

- 1. The production lighting contractor shall provide all low-voltage terminations related to the production and architectural lighting system.
- 2. Coordinate with electrical contractor for proper sequencing.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Advise Div. 26 for the proper installation of the dimming and control equipment specified herein.
- B. For the commissioning services as listed herein only, coordinate scheduling and access with the Contractor and Theatre and provide personnel lifts or ladders as required for access to the lighting equipment.
- C. For the commissioning services as listed herein only, remove all packing materials from the jobsite. Insert operations and maintenance information into the project record documents as specified above in Submittals.

3.02 COMMISSIONING AND DEMONSTRATION

- A. Coordinate with Division 26.
- B. Factory trained and authorized personnel shall review, test, program and otherwise complete the system, providing that the system and all components are fully functional per the Documents and fully covered under the Manufacturer's warranty.
 - 1. It shall be under the work in this section to provide turnkey proper and logical programming of the lighting control systems.
 - 2. It shall be under the work in this section to coordinate the proper and logical programming of the low voltage relay panel supplied under Division 26.
 - a. The low voltage panel shall be programmed so the control groups of branch circuits match the control and indication on the architectural control panels provided and programmed under this section.
- C. Upon completion of the installation, the Contractor shall notify the Theatre's Representative that the system is available for formal checkout. Notification shall be provided in writing. Checkouts shall be scheduled in accordance with the Theatre's Representative's schedule.
- D. Provide to the Theatre's Representative the following upon arrival:
 - 1. Measurements of the input voltages to the dimmer racks.
 - 2. Measurements of output voltages at a 5% sampling of wiring devices with the longest wire run, under a 575 watt load.
 - 3. All Ethernet wiring shall be tested at Category 5 and certified for full bandwidth operation.
- E. Make available for review by the Theatre's Representative:
 - 1. All components for physical inspection and inventory.
 - 2. All installed controls shall be operational.
 - 3. All portable controls shall be operational at all plug in locations.
 - 4. Demonstration of input and output of lighting control data throughout the data distribution system.
 - 5. All distribution shall be checked for continuity, grounding and polarity.
 - 6. Simulation of dimmer rack failure and power outage conditions.
- F. The Contractor shall be liable for any return visits by the Theatre's Representative as a result of incomplete or incorrect installation, or erroneous representation that the Systems are complete and ready for the Theatre's Representative to carry out their work.
- G. The Contractor shall arrange for access as necessary for inspection of equipment by the Theatre's representatives.
- H. Upon completion of the commissioning, the factory trained and authorized personnel shall demonstrate operation and maintenance of the system to the Theatre's representatives. Coordinate with the Theatre's Representative's schedules two weeks in advance minimum.
- I. Training shall include, but not be limited to:
 - 1. Safety precautions.
 - 2. Identification of all elements provided under this section.

**SECTION 26 05 00
BASIC ELECTRICAL REQUIREMENTS**

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. Work included in this Section: All materials, labor, equipment, services, and incidentals necessary to install the Electrical Work as shown on the drawings and as specified hereinafter, including, but not limited to the following:
 - 1. Dimmer panel removal and all related new work related to the new Theatrical Production Lighting system.
 - 2. Main switchgear modifications and new feeders.
 - 3. Branch circuit wiring, wiring devices, terminal strips, and connections to all equipment requiring electrical connections.
 - 4. All required incidental work, such as core drilling of concrete floors and walls, electrical testing, and temporary power.
 - 5. Any other electrical work as might reasonably be implied as required, even though not specifically mentioned herein or shown on the drawings.
 - 6. It is the intent of the drawings and specifications that systems be complete and, except as otherwise noted, be ready for operation.

1.02 RELATED WORK

- A. Division 11 - Production Lighting Control

1.03 INCORPORATED DOCUMENTS

- A. Requirements of the General Conditions, Supplementary Conditions, and Division 1 Sections apply to all work in this Section, unless modified herein.
- B. Published specifications, standard tests or recommended methods of trade, industry or government organizations apply to work of this Section where cited by abbreviations noted below, unless modified herein.
 - 1. 2013 California Code of Regulations.
 - 2. 2013 California Building Standards Administrative Code, Part 1, Title 24, C.C.R.
 - 3. 2013 California Building Code (CBC), Part 2, Title 24, C.C.R. (Based on 2012 International Building Code with 2013 California Amendments).
 - 4. 2013 California Electrical Code (CEC), Part 3, Title 24, C.C.R. (Based on 2011 National Electrical Code with 2013 California Amendments).
 - 5. Underwriters' Laboratories, Inc. (UL).
- C. All State and Municipal Codes and Ordinances.

1.04 CONDITIONS AT SITE:

- A. Visit to site is required of all bidders prior to submission of bid. All will be held to have familiarized themselves with all discernible conditions and no extra payment will be allowed for work required because of these conditions, whether specifically mentioned or not.
- B. Lines of other services that are damaged as a result of this work shall promptly be repaired at no expense to the Owner to the complete satisfaction of the Owner.

1.05 QUALITY ASSURANCE

- A. Conformance:
 - 1. All work shall conform to the applicable requirements of Article 1.03 above.
 - 2. The Contractor shall notify the Project Manager, prior to submission of bid, about any part of the design, which fails to comply with abovementioned requirements.
 - 3. If after contract is awarded, minor changes and additions are required by aforementioned authorities, even though such work is not shown on drawings or covered in the specifications, they shall be included at Contractor's expense.

- B. Coordination:
 - 1. The Contractor shall become familiar with the conditions at the job site, and with the drawings and specifications and plan the installation of the electrical work to conform with the existing conditions and that shown and specified so as to provide the best possible assembly of the combined work of all trades.
 - 2. The Contractor shall work out in advance all "tight" conditions, involving all trades and if found necessary, supplementary drawings shall be prepared by this Contractor, for the Project Manager's approval, before work proceeds in these areas. No additional costs will be considered for work, which must be relocated due to conflicts with the work of other trades.
 - 3. The Contractor shall coordinate and verify all backbox, device and/or equipment mounting requirements with the devices or equipment to be installed, prior to rough in.

1.06 SUBMITTALS

- A. Product Data:
 - 1. Within 15 days after award of the Contract, submit:
 - a. Complete electrical systems material list of all items proposed to be furnished and installed under this Division. Provide manufacturers data sheets for all devices, raceways, fixtures, equipment, and related products to be used for the Division 26.
 - b. Manufacturers' specifications and other data required demonstrating compliance with the specified requirements.
 - c. Manufacturers' recommended installation procedures which, when approved by the Project Manager, shall become the basis for inspecting and accepting or rejecting actual installation procedures used on the work.
 - 2. Shop Drawings: Furnish shop drawings and/or equipment cuts for the following:
 - a. Main Switchboard circuit breaker.
 - b. Disconnect Switch
 - c. Company Switch
 - 3. Test Reports:
 - a. Factory Tests: As specified for specific equipment.
 - b. Field Tests: Performance tests as specified for specific equipment.
 - c. Megger Tests: As specified under TESTING.
 - 4. Maintenance and Operating Manuals:
 - a. Systems Description: Description of operating procedures.
 - b. Controls: Diagrams and description of operation of each system.
 - c. Equipment: Manufacturer's brochures, ratings, certified shop drawings, maintenance data, and parts lists with part numbers. Mark each sheet with equipment identification number and actual installed condition.
 - d. Materials and Accessories: Manufacturer's brochures, parts lists with part numbers, and maintenance data where applicable. Mark each sheet with identification number of system and location of installation.
 - 5. Record Documents: "As-builts": As specified under Paragraph 3.02 of this Section.

1.07 DELIVERY, STORAGE AND HANDLING

- A. Protection: Use all means necessary to protect the materials of this Section before, during, and after installation and to protect the work and materials of all trades.
- B. Delivery and Storage: Deliver all materials to the job site in their original containers with all labels intact and legible at time of use. Store in strict accordance with approved manufacturers' recommendations.
- C. Replacements: In the event of damage, immediately make all repairs and replacements necessary to the approval of the Architect and at no additional cost to the Owner.
- D. This Contractor shall personally, or through an authorized representative, check all materials upon receipt at jobsite for conformance with approved shop drawings and/or plans and specifications.

1.08 SCHEDULING/SEQUENCING

- A. Place orders for all equipment in time to prevent any delay in construction schedule or completion of project. If any materials or equipment are not ordered in time, additional charges made by equipment manufacturers to complete their equipment in time to meet the construction schedule, together with any special handling charges, shall be borne by this Contractor.
- B. The Contractor shall coordinate production and delivery schedule for all Owner-supplied equipment with the equipment suppliers to ensure that all Owner-supplied equipment is delivered to site in coordination with the construction schedule and in such a manner as to cause no delays in completion of the Contract as scheduled.

1.09 REQUIREMENTS

- A. The contract drawings indicate the extent and general arrangements of the conduit wiring systems, etc. If any departures from the contract drawings are deemed necessary by the Contractor, details of such departures and the reasons therefore shall be submitted as soon as practicable, and within thirty-five (35) days after award of the electrical contract.
- B. Unless material list and data is received as a complete and all inclusive submittal within the stipulated time all items shall be provided as specified, with no deviations permitted.
- C. Any and all additional costs incurred by the substitution of electrical material or equipment, or installation thereof, whether architectural, structural, plumbing, mechanical or electrical, shall be borne by the Contractor under this Section.
- D. Burden of proof of equality of any substitution for a specified product is the responsibility of this Contractor.
- E. Where required by Project Manager to ascertain equality of substitute product, Contractor may be requested to provide the specified item and the submitted substitution for comparison, at no additional cost to the Owner.

1.10 DESCRIPTION OF WORK

- A. This project involves the renovation of an existing building. As such, the project scope for this contractor will include all associated electrical system upgrades and demolition/removal work at the existing Theatre. The intent is that all systems will be complete and functional at the completion of this contract and that all old systems, equipment, feeders, circuits, wiring, and related devices (no longer used) be completely and neatly removed. Where discrepancies between the drawings and existing conditions are noted, the project manager shall be notified immediately for resolution.
- B. As with every renovation project, the electrical work will include (and require) exploration and other field work on a daily basis to complete the new designed equipment and connections within the constraints of the existing building and existing site conditions.
- C. The contractor shall include as part of the base bid, sufficient labor hours to provide such exploration and field work throughout the duration of the project. Change orders for misc. coordination of existing conditions will not be approved unless specific and latent conditions are uncovered that warrant such additional compensation or require additional work not shown on the plans or implied by the designed conditions.
- D. New raceways and wiring to new and renovated equipment are to be installed unless otherwise noted.
- E. All new raceways shall be installed concealed and all new equipment installed flush, unless otherwise noted on the plans or in these specifications.

1.11 GUARANTEE

- A. This Contractor shall guarantee that all work executed under this Section will be free from defects of materials and workmanship for a period of one (1) year or as per the General Conditions of this project, whichever is longer. Dates shall be from the date of final acceptance of the building. The contractor shall further guarantee that he will, at his own expense, repair and replace all such defective work, and all other work damaged thereby, which becomes defective during the term of the guarantee. Such repair or replacement shall be guaranteed for one (1) year from the date of repair or replacement.

1.12 PERMITS AND INSPECTIONS

- A. This Contractor shall arrange for and obtain all required inspections.
- B. Do not allow or cause any of the work to be covered or enclosed until it has been tested and/or inspected.

1.13 IDENTIFICATION

- A. Switchboards, feeder circuit breakers in switchboards, panels, disconnect switches, motor starters, transformers, motor disconnect switches, cabinets, and other apparatus used for the operation of, or control of circuits, appliances or equipment, shall be properly identified by means of engraved laminated plastic descriptive nameplates mounted on apparatus using stainless steel screws. Nameplates shall have white letters with black background and be submitted to the Architect for approval. Cardholders in any form are not acceptable.

- B. Provide p-touch style labeling of circuit designations for all lighting receptacles on the project.
- C. Each branch circuit of panel boards to have a permanently fixed number with load directory, mounted under celluloid on inside of cabinet door, showing circuit numbers and typewritten description of equipment supplied by breakers. Update directories at panels that are modified with a new fully typed panel directory, to replace the existing directory.

PART 2 - PRODUCTS

2.01 GENERAL

- A. Refer to applicable Division 26 Sections for complete products specifications.

2.02 MATERIALS

- A. Materials of the same type or classification, used for the same purpose, shall be the product of the same manufacturer.

2.03 ACCEPTABLE MANUFACTURERS

- A. Materials shall be of make mentioned elsewhere in this specification. All materials shall be the best of their several kinds, perfectly new and approved by the Underwriters' Laboratories.
- B. Where material, equipment, apparatus or other products are specified by manufacturer, brand name, type or catalog number, such designation is to establish standards of desired quality, style and utility and shall be the basis of the bid. Materials so specified shall be furnished under the contract unless changed by written approval of the Project Manager. Where two or more designations are listed, choice shall be optional with this Contractor, but this Contractor must submit his choice for final approval.

2.04 POSTED OPERATING INSTRUCTIONS

- A. Furnish approved operating instructions for systems and equipment where indicated in the technical sections for use by operation and maintenance personnel. The operating instructions shall include wiring diagrams, control diagrams, and control sequence for each principal system and equipment. Print or engrave operating instructions and frame under glass or in approved laminated plastic. Post instructions as directed. Attach or post operating instructions adjacent to each principal system and equipment including startup, proper adjustment, operating, lubrication, shutdown, safety precautions, procedure in the event of equipment failure, and other items of instruction as recommended by the manufacturer of each system or equipment. Provide weather-resistant materials or weatherproof enclosures for operating instruction exposed to the weather. Operating instruction shall not fade when exposed to sunlight and shall be secured to prevent easy removal or peeling.

2.05 CATALOGED PRODUCTS/SERVICE AVAILABILITY

- A. Materials and equipment shall be current products by manufacturers regularly engaged in the production of such products. Products shall have been in satisfactory commercial or industrial use for 2 years prior to bid opening. The 2-year period shall include applications of equipment and materials under similar circumstances and of similar size. The 2-year period shall be satisfactorily completed by a product for sale on the commercial market through

advertisements, manufacturers' catalogs, or brochures. Products having less than a 2-year field service record will be acceptable if a certified record of satisfactory field operation for not less than 6,000 hours, exclusive of the manufacturers' factory or laboratory tests, is furnished. The equipment items shall be supported by service organizations which are reasonable convenient to the equipment installation in order to render satisfactory service to the equipment on a regular and emergency basis during the warranty period of the contract.

PART 3 - EXECUTION

3.01 INSPECTION

- A. Examine the areas and conditions under which the work of this Section will be installed. Correct conditions detrimental to the proper and timely completion of the Work. Do not proceed until unsatisfactory conditions have been corrected.

3.02 PREPARATION

- A. Drawings:
 - 1. The general arrangement and location of wiring and equipment is shown on the electrical drawings and shall be installed in accordance therewith, except for minor changes required by conflict with the work of other trades.
 - 2. The Contractor shall coordinate and verify all backbox, device, or equipment mounting requirements with the devices or equipment to be installed, prior to rough in.
 - 3. All branch circuit wiring #12, #10, or #8 as noted.
 - 4. Maintain "as-built" records at all times, showing the exact location of concealed conduits and feeders installed under this contract, and actual numbering of each circuit. Upon completion of work and before acceptance can be considered, this Contractor must forward to the Project Manager, updated CAD plans, corrected to show the electrical work as actually installed.
- B. Measurements: Before ordering any material or closing in any work, verify all measurements on the job. Any differences found between dimensions on the drawings and actual measurements shall be brought to the Architect's attention for consideration before proceeding.

3.03 FIELD QUALITY CONTROL

- A. All workmanship shall be first class and carried out in a manner satisfactory to and approved by the Architect.
- B. This Contractor shall personally, or through an authorized and competent representative, constantly supervise the work and so far as possible keep the same foreman and workmen on the job throughout.

3.04 COORDINATION

- A. In electrical rooms, Contractor is responsible for installation of electrical equipment within the space provided. Contractor shall provide 1/4" scale plans of electrical room layouts, and elevations of steel channel supports (where used or required) of electrical equipment for review and approval prior to any installation or rough-in

3.05 TEMPORARY LIGHTING AND POWER

- A. Provide and install temporary lighting and power systems for the duration of construction, of adequate size to accommodate the required lighting and power loads. Coordinate with other trades to insure adequate sizing.
- B. Provide distribution equipment as required to support all construction activities.

3.06 FIRE STOPPING AND FIRE RATED PENETRATIONS

- A. All electrical equipment mounted in, on, or through fire rated construction shall be installed to maintain the fire rating of the construction.
- B. Provide fire rated pads (or other suitable assembly) around all electrical junction boxes in fire rated walls/ceilings/floors to maintain the fire rating.
- C. Provide fire rated construction around all recessed light fixtures and/or panel board / cabinets mounted flush in fire rated walls to maintain the fire rating. Coordinate depth of construction with other trades to avoid conflicts.
- D. Conduit sleeves shall be provided as a means of routing cables through fire-rated walls or floors. Openings in sleeves and conduits used for system cables and those which remain (empty) spare shall be sealed with an approved fireproof, removable sagging material. Sleeves which pass vertically from floor to floor shall be sealed in a similar manner using an approved re-enterable system. Additional penetrations through rated assemblies necessary for passage of tel/data wiring shall be made using an approved method and permanently sealed after installation of cables.

3.07 ADJUSTING AND CLEANING

- A. All electrical equipment, including existing equipment not "finish painted" under other sections, shall be touched up where finished surface is marred or damaged.
- B. All equipment, lighting fixtures, etc., shall be left in clean condition, with all shipping and otherwise unnecessary labels removed there from.

3.08 SCHEDULES

- A. Coordination: Coordinate installation of electrical items with the schedule for other work to prevent unnecessary delays in the total Work.

3.09 WARNING SIGN MOUNTING

- A. Provide the number of signs required to be readable from each accessible side, but space the signs a maximum of 30 feet apart.

3.10 PAINTING OF EQUIPMENT

- A. Factory Applied: Electrical equipment shall have factory-applied painting systems which shall, as a minimum, meet the requirements of NEMA ICS 6 corrosion-resistance test, except

equipment specified to meet requirements of ANSI C37.20 shall have a finish as specified in ANSI C37.20.

- B. Field Applied: Paint electrical equipment as required to match finish or meet safety criteria. Painting shall be as specified in the respective equipment section.

3.11 TESTS

- A. Testing and inspection: See Section 26 08 00 - Testing.

END OF SECTION

SECTION 26 05 35

PRODUCTION SYSTEMS ELECTRICAL INSTALLATION

PART 1 - GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Provision of services as listed within Div. 26 related to the installation of production systems and electrical infrastructure including:
 - a. Production lighting control systems
 - b. Production power “company switches”
- B. It shall be under the work in this section to provide electrical infrastructure, accommodations and connections to systems in other Sections.
 - 1. It shall be under the work of a specialty sub contractor for Section 11 61 83 – Production Lighting Control to furnish equipment only to the jobsite. It is under the work in this Div. 26 Section to coordinate with, receive, install all equipment (line voltage and low voltage) and provide all power infrastructure, conduit, raceway, wire, connectors, hardware and other incidental items, terminations for line voltage systems only and testing to provide a complete and working system. Reference PL Documents for other electrical requirements.
 - 2. The specialty sub contractor for 116183 – Production Lighting Control shall provide all low-voltage terminations.
- C. Coordination with all related sections doing adjacent or integrated work.

1.02 RELATED SECTIONS

- A. Coordinate with the following sections in carrying out this work:
 - 1. Division 1 General Conditions
 - 2. Section 11 61 83 – Production Lighting Control
 - 3. Other Division 26 Sections

1.03 REFERENCES

- A. Comply with all national, state and local regulations. In the event of conflict between these specifications and the applicable regulations, the more stringent shall govern.

1.04 SYSTEM DESCRIPTION

- A. Production Lighting Control System
 - 1. The system shall be designed for the control of production lighting and shall consist of factory pre-wired dimming and processing rack enclosures containing dimmers, power supplies, breakers, terminals and/or control electronics.
 - 2. Dimmed circuits shall be connected to factory pre-wired wiring devices.
 - 3. System shall work in conjunction with specified low-voltage control and receptacle stations.
 - 4. All equipment is furnished as equipment only and must be installed and circuited by the electrical contractor.
- B. “Company Switches” are cabinets and receptacles specially designed for temporary production power connections.

1.05 DEMOLITION

- A. Provide demolition services as outlined in the contract drawings.
- B. Contractor is responsible to dispose of all demolished materials, except copper wire. Provide copper wire to owner for removal.
- C. Contractor shall engage an ESTA certified theatrical rigging company to assist with demolition activities related to or occurring on the existing counterweight rigging system.

1.06 DESIGN CRITERIA

- A. Production Lighting System

1. Branch production lighting wiring and infrastructure shall provide 115VAC +/-3% at all wiring devices under a 575w lighting load.
2. Production dimming shall be rated for 100% continuous operation. Branch wire size and conduit/raceway shall be sized for the full rated loads of the dimmers and 100% continuous operation of every circuit without deration on any part of the circuit or system, subject to the maximum overall feeder and protection devices as listed in Drawings. For 20A loads, assume 10AWG wire unless otherwise noted.
3. Control wiring shall be installed per the related trade and regulatory guidelines including but not limited to UL, NEC, IEEE, and all manufacturer's recommendations and requirements. Contractor shall be responsible in the event that work under their control voids or jeopardizes manufacturers' warranties.

1.07 SUBSTITUTIONS

- A. All requests for substitutions from the specified materials, assemblies or related services shall be submitted for review by the Owner's Representative prior to bid. Substitution requests made after bid shall be neither reviewed nor accepted. Requests shall be made in accordance with Division 1 of the specifications, and in a timely fashion so as to not affect the project schedule in either case of the substitution being accepted or rejected.
- B. Documentation for the substitution shall be submitted with supporting material and shall including the related information for the item as specified so that equivalence can be demonstrated. The burden of proof rests solely upon the Contractor. The Owner's Representative shall be the sole evaluator of the fitness of the substitution.
- C. All expenses related to the substitution including, but not be limited to, all fees and expenses incurred in the evaluation of the substitution, and any effect on the costs and schedule of other trades whether or not the substitution is accepted, shall be borne by the Contractor.

1.08 SUBMITTALS

- A. Reference applicable sections for submittal requirements. Final wire types and electrical installation requirements shall be indicated on final approved shop drawings for each discipline. The final approved shop drawings shall supersede the contract documents.
- B. Shop Drawings:
 1. Submit full-size (minimum 30" x 42") scaled shop drawings that show the following:
 - a. All production systems conduits to be included in slab or concrete/CMU walls.
 - b. Dimensioned locations of in-floor trenchduct, floor boxes, or any other production systems device that will be cast in concrete, including conduit sizes and entry points.
 - c. Dimmer rack mounting
 - d. Floor pocket mounting
 2. Submit manufacturer cut sheets or product data for the following devices:
 - a. Company Switches
 - b. In-Floor Trenchduct
 - c. Overhead Cable Tray
 3. Contractor is responsible for any repair or remediation necessary due to failure to receive approval for production systems devices cast in concrete or placed in CMU walls.
 4. Conduit, Backboxes and Electrical Systems Verification Letter:
 - a. Within 30 days of contract award, the contractor shall review all relevant information pertaining to the production lighting control systems low-voltage conduit, backboxes, and line-voltage electrical work to be performed by division 26. A formal memo, outlining acceptance (or desired changes) of the contract drawing shall be provided. Failure to provide this memo indicates acceptance of, and liability for, the conduit, backboxes and electrical systems as indicated in the contract drawings.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Components and types per referenced specification sections except where manufacturer's recommendations and requirements vary.

1. Refer to final, approved production systems manufacturers or specialty sub contractor's shop drawings for final control wiring types, counts and routes, which shall govern over Drawings. Coordinate with manufacturer or specialty sub contractor for alternate routes and wire counts in case of field limitations.

2.02 PRODUCTION LIGHTING

- A. All power and control wiring shall be labeled at each end and connected per circuit assignments as shown on the PL drawings and approved shop drawings, as applicable.
- B. Provide excess tails at ends as recommended by the manufacturer.
- C. Control wiring shall be continuous with no splices per the applicable industry standards.
- D. Wiring device wiring:
 1. Branch load wiring shall include a dedicated neutral for each circuit, sized as a current carrying conductor. No common neutrals will be accepted.
 2. Provide one ground wire minimum per wiring device homerun to and terminated at the dimmer rack, sized per applicable regulatory requirements.
 3. Any and all parallel circuits shall be home run to the dimmer racks unless otherwise noted.
 4. Coordinate circuit management for proper landing on device lugs. Coordination shall include, but not be limited to verifying with the manufacturer during the submittal process and prior to manufacturing, provision of the appropriate lug sizes within the devices.
 5. Branch circuit load wiring shall be continuous no splices will be acceptable between dimmer lugs and wiring device terminal strip.
 6. Coordinate with manufacturer for the provision of properly sized terminals and lugs, as appropriate for compliant wiring. Wire size reductions or spliced leaders used for stepping down wire size to fit manufactures' terminals is not acceptable.
 7. All power and control wiring for production systems shall be pulled in metal raceway. This shall include empty raceway provided for future production systems wiring.
 - a. Raceway placed in grade or poured in concrete shall be epoxy covered, rigid metal conduit/raceway.
 8. Production lighting conduit shall be no smaller than 1" diameter, or the greater of what is required by either the applicable code, Drawings or the final, approved equipment shop drawings.
- E. Dimmer rack installation
 1. Provide breaker or disconnect within the same room and within site of the dimmer racks. Breaker or disconnect shall be equipped with an OSHA compliant lockout and tagout padlock attachment to lock the handle in the off position when not in use.
 2. Feeders shall be copper. Feeder neutrals shall be sized as a current carrying conductor oversized by a factor of 2x.
 3. Dimmer racks shall be installed per the Documents and per manufacturer's recommendations, whichever is more stringent.
 4. Branch load conduit/raceways shall terminate in a compliant gutter or raceway above or adjacent to the dimmer racks. From the gutter or raceway, wiring shall be managed into large diameter conduit/raceways to the branch feed location of the rack.
 5. Feeder, branch and control conduit/raceways shall not have a rigid connection into the dimmer racks. Provide a rigid conduit to enter the top of the dimmer rack with an oversized knockout. Provide putty around conduit for an air tight seal to maintain dimmer rack air flow requirements.
 6. Allow proper clearances around racks for circulation per manufacturer's recommendations.
 7. Dimmer racks shall be mounted on vibration isolation pads. Provide captive neoprene mount sized for minimum static deflection of 0.20" under dimmer rack load. Neoprene mount shall consist of concentric steel elements separated by neoprene no harder than 50 durometer. Mount shall be capable of acting in tension, compression and shear and shall resist without failure a minimum 1.0 G seismic acceleration in any direction.
 - a. Provide:
 - 1) BR by Mason
 - 2) NVD by B-Line

3) or equal.

2.03 COMPANY SWITCHES

- A. 200A & 400A, 120/208VAC, 3-phase company switches shall have the following features:
1. Unit shall be UL Listed and labeled, and NEC Article 520 compliant.
 2. The unit shall have a wiring chamber that contains both direct wire lugs and single pole industry standard "Camlok E1016" output connectors. Provide double neutrals. Individual connectors of appropriate sex per regulations and industry standard.
 3. Cam and lug cables shall enter and exit the wiring chamber from access holes in the bottom of the enclosure.
 4. A lockable hinged access door shall provide access to the wiring chamber, denying access to the connections when mated.
 5. Outside of door shall have safety precautions dominantly displayed.
 6. The access door shall engage the shunt trip mechanism of the main circuit breaker whenever it is not fully closed, so that connections cannot be made or broken under load.
 7. Output lug connections shall accommodate a maximum of 250mcm cable.
 8. The unit shall contain (1) 100% rated 3 pole main circuit breaker with a 65K AIC rating.
 9. Breaker shall be recessed beneath the plane of the front panel of the unit to prevent accidental operation.
 10. Breaker shall be equipped with an OSHA compliant lockout and tagout padlock attachment to lock the handle in the off position when not in use.
 11. The unit shall be equipped with light emitting diode indicator lights for each supply phase, labeled with NEC specified color-codes and alphabetic names of phases.
 12. Contractor connections to the main circuit breaker shall accept up to 500mcm wire.
 13. Enclosure shall be fabricated from 14 gauge steel, and shall have (4) welded mounting tabs.
 14. Special Accommodations:
 - a. For the production lighting company switch, provide dual neutral connections.
 - b. For the AV systems company switch, provide both isolated ground and building ground connections.
 15. Acceptable units, subject to the specifications herein:
 - a. Lex Products Powergate Company Switch
 - b. ETC (Electronic Theatre Controls) Power Safe Pro
 - c. Or equal
- B. Provide company switches in locations as shown on drawings. 120/208VAC, 3-phase, 60A & 100A company switches shall have the following features:
1. 3-phase, 120/208VAC safety mechanical interlocked pin and sleeve 4-pole 5-wire connector
 - a. Mechanical interlock shall prevent the switch from being turned on –when nothing is plugged in, and shall prevent something from being unplugged – when something is turned on.
 2. Unit shall be UL Listed and labeled
 3. Thermoplastic Valox top and base, high heat thermoset interiors.
 4. Certified for current interrupting at full rated current and voltage.
 5. Rated for 10,000 mechanical cycles and 6,000 electrical cycles
 6. Acceptable units, subject to the specifications herein:
 - a. Leviton 5100MI9W
 - b. or equal

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Production Lighting Control System

1. It is under the work in this Div. 26 Section to receive and store the necessary materials and equipment for installation of the dimmer system. It is the intent of these specifications and plans to include everything required for proper and complete installation and operation of the dimming system, even though every item may not be specifically mentioned. The contractor shall deliver on a timely basis to other trades any equipment that must be installed during construction.
2. It is under the work in this Div. 26 Section to be responsible for field measurements and coordinating physical size of all equipment with the architectural requirements of the spaces into which they are to be installed.
3. It is under the work in this Div. 26 Section to install all lighting control and dimming equipment in accordance with final, approved manufacturer's approved shop drawings.

3.02 CONDUIT/RACEWAY INSTALLATION

- A. Conduit/raceway shall not be placed where it obstructs production functions or the proper installation of other production systems.
 1. No conduit/raceway is permitted on lighting pipes. Crossing pipes or grids used for lighting shall only be allowed where authorized by the Owner's Representative. Vertical conduit/raceway shall be placed on vertical structural hangers or where otherwise permitted by the Owner's Representative.
 2. Clear zones shall be maintained where noted on Drawings and on specialty sub contractors approved shop drawings. Violations shall be corrected as required by the Owner's Representative at no additional cost to the Owner.
 3. Coordinate with related contractors and Owner's Representative.
- B. Any conduit required to be placed in concrete slab shall be approved by the consultant.

3.03 COMMISSIONING

- A. Production Lighting Control System
 1. All branch load circuits shall be live tested before connecting the loads to the dimmer system load terminals.
 2. All branch load circuits shall be live tested after termination for proper wiring, continuity and polarity. Irregularities shall be corrected before arrival of manufacturer's factory-trained personnel and Owner's Representative checkout.
 3. Upon completion of the installation, including testing of load circuits, the contractor shall notify the dimming system manufacturer that the system is available for formal checkout.
 4. Notification shall be provided in writing, two weeks prior to the time factory-trained personnel are needed on the job site.
 5. No power is to be applied to the dimming system unless specifically authorized by written instructions from the manufacturer.
- B. The Div. 26 Contractor shall be liable for any return visits by the specialty sub-contractor, factory engineer or Owner's Representative as a result of incomplete or incorrect wiring, or erroneous representation that the Systems are complete and ready for the related Contractor or Owner's representative to carry out their work.

END OF SECTION

**SECTION 26 08 00
TESTING**

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. Work Included in This Section: All materials, labor, equipment, services, and incidentals necessary to perform the testing and inspection of the electrical work, including but not limited to the general systems noted below:
 - 1. Grounding System.
 - 2. Lighting System.
 - 3. Distribution System.
 - 4. Fire Alarm System.
 - 5. Clock, Speaker, Telephone System.
 - 6. Lighting control system.
 - 7. Lighting emergency inverter system
 - 8. Telephone and Data Wiring Systems
 - 9. Classroom AV System.
 - 10. Title 24 Acceptance Testing

- B. Any other electrical work as might reasonably be implied as required, even though not specifically mentioned herein or shown on the drawings.

- C. All work shall comply with Sections 26 05 00 and 26 27 00.

- D. In addition to the general system tests and inspections indicated above, the Contractor shall retain the services of a recognized corporately and financially independent testing firm (Emerson Network Power or equal) for the purpose of performing the following inspections and tests. The testing firm shall provide all material, equipment, labor, and technical supervision to perform such tests and inspections:
 - 1. System Grounding.
 - 2. Switchgear, Distribution Panels, Panelboards.
 - 3. Feeders.

- E. The purpose of these tests is to assure that all tested electrical equipment is operational and within industry and manufacturer's tolerances and is installed in accordance with design specifications.

1.02 APPLICABLE CODES, STANDARDS, AND REFERENCES

- A. All inspections and tests shall be in accordance with the International Electrical Testing Association - Acceptance Testing Specifications ATS-2013 (referred to herein as NETA ATS-2013).

1.03 QUALIFICATIONS

- A. Qualifications of the Testing Firm shall be as listed in NETA ATS-2013.

PART 2 - PRODUCTS

2.01 THIS ARTICLE DOES NOT APPLY TO TESTING.

PART 3 - EXECUTION

3.01 GENERAL

- A. Final test and inspection to be conducted in presence of the Authority having Jurisdiction (AHJ) or Inspector of Record (IOR). Test shall be conducted at the expense of, and managed by, the Contractor, at a mutually agreed time. Submit written test report of all tests, with test result values and overall outcome.
- B. All portions of the electrical installation shall be inspected and tested to ensure safety to building occupants, operating personnel, conformity to code authorities and Contract Documents, and for proper system operation.

3.02 INSPECTIONS AND TESTS

- A. Tests: Field tests shall be performed and reports submitted, as per Section 26 05 00, Part 1.
 - 1. Final Inspection Certificates: Prior to final payment approval, deliver to the Owner, with a copy to the Project Manager, signed certificates of final inspection by the appropriate local authority having jurisdiction.
- B. Grounding System:
 - 1. All ground connections shall be checked and the entire system shall be checked for continuity.
 - 2. Ground tests shall meet or exceed the requirements of the National Electric Code.
- C. Lighting Systems:
 - 1. The interior and exterior lighting systems shall be checked for proper local controls and operation of entire installation, including the operation of the low voltage lighting control system.
- D. Power Distribution System:
 - 1. Test dimmers, distribution boards and panel boards for grounds and shorts with mains disconnected from feeders, branch circuits connected and circuit breakers closed, all fixtures in place and permanently connected and grounding jumper to neutral lifted and with all wall switches closed.
 - 2. Test each individual circuit at each panelboard or dimmer with equipment connected for proper operation. Inspect the interior of each panel.
 - 3. Check verification of color coding, tagging, numbering, and splice make-up.
 - 4. Verify that all conductors associated with each circuit are in same conduit.
 - 5. Demonstrate that all lights, jacks, switches, outlets, and equipment operate satisfactorily and as called for.
 - 6. Perform megger tests of all new distribution system feeders prior to energizing. All Cables failing megger tests or with evidence of damage shall be removed and replaced in their entirety (no splices), at no cost to the Owner. Damaged cables may not be field repaired without specific approval of the Project Manager.

END OF SECTION

**SECTION 26 27 00
BASIC ELECTRICAL MATERIALS AND METHODS**

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. Work included in this Section: All materials, labor, equipment, services, and incidentals necessary to install the electrical work as shown on the drawings and as specified hereinafter, including but not limited to the work listed below:
 - 1. Raceways, feeders, branch circuit wiring, wiring devices, safety switches and connections to all equipment requiring electric service.
- B. Any other electrical work as might reasonably be implied as required, even though not specifically mentioned herein or shown on the drawings.
- C. All work shall comply with Section 26 05 00.

1.02 RELATED WORK

- A. Division 11 - Production Lighting Controls

1.03 SUBMITTALS

- A. Comply with the provisions of Section 26 05 00.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

- A. Refer to Section 26 05 00, Basic Electrical Requirements, Part 2 - Products.
- B. List of Equipment Manufacturers:

Conduit and Conduit Fittings

Allied Tube and Conduit, Wester Tube and Conduit, LTV Steel Tubular, National Electric Products, AFC, Republic Steel Corporation, Rome Cable Corporation, United States Steel Corporation, Killark Electric Manufacturing Company, Raco, VAW Aluminum Company, Bridgeport, Steel City, Thomas & Betts, Carlon, O.Z. Gedney, Appleton, Regal.

Wire and Cable (600V)

American Wire Company, General Wire and Cable Corporation, Okonite Company, Rome Cable Corporation, Cerrowire, American Insulated Wire, AFC Cable Systems, Essex, Simplex Wire and Cable Company, Southwire.

Solderless Lugs and Grounding Connections

Burndy Engineering Company Inc, O.Z. Gedney Company Inc, Penn Union Electric Corporation, Thomas and Betts Company Inc.

Pull Boxes, Gutters, Special Cabinets

Square D Company, Columbia Electric Manufacturing Company, General Electric Company, Westinghouse Electric Corporation, Circle Awalt.

Outlet Boxes

Appleton Electric Company, Killark Electric Manufacturing Company, Lew Electric Fittings Company, National Electric Products Corporation, Raco, Steel City Electric Company, Carlon, Bowers.

Wiring Devices

Leviton, Arrow-Hart, Cooper, Hubbell, Lutron, Bryant.

Conduit Racks, Hangers

General Electric Company, Killark Electric Manufacturing Company, Caddy, National Electric Products Corporation, Republic Steel Corporation, Rome Cable Corporation, United States Steel Corporation, VAW Aluminum Company, Superstrut, B-Line.

Safety Switches (Disconnect and Fusible)

Square D Company, Cutler Hammer Inc, General Electric Company, Westinghouse Electric Corporation.

Fuses

Bussman Manufacturing Company, Chase-Shawmut Company.

Firestopping

3M, Nelson.

2.02 MATERIALS

- A. Raceways: Only the raceways specified below shall be utilized on this project. Substitutions shall be pre-approved in writing. All bare conduit ends (stub-ups or stub-outs) shall be provided with bushed ends or manufactured insulated throat connectors:
1. Rigid Type - hot dip galvanized or sherardized steel, with completely watertight, threaded fittings throughout. Compression fittings are not acceptable.
 2. All conduit cuts (factory or field cut) shall be perfectly square to the length of the conduit and cut ends shall be reamed with a reaming tool to provide a smooth edge to the passing conductors and to remove all burrs and scrapes. Use of a hand file is not acceptable.
 3. Fasten conduits securely to boxes with locknuts and bushings to provide good electrical continuity.
 4. Support individual suspended conduits with heavy malleable strap or rod hangers; supports for ½ inch or ¾ inch conduit placed on maximum 7-foot centers; maximum 10-foot centers on conduits 1 inch or larger.
 5. Support multiple conduit runs from Kindorf B907 channels with C-105 and C-106 straps.
 6. Conduit bends - long radius.
 7. To facilitate pulling of feeder conductors, install junction boxes as shown or required.
 8. All empty conduits on the project shall be provided with a nylon pull rope to allow pulling of future conductors intended for the specific raceway. Provide plastic wire-tie style nameplate tags on each end of pull rope with printed identification of conduit use and the location of the opposite end of the rope.
- B. Outlet Boxes and Junction Boxes. Verify all backbox requirements with devices to be installed prior to rough-in.
1. One piece steel knockout type drawn boxes, unless otherwise noted, sized as required for conditions at each outlet or as noted.
 2. Flush-mounted boxes equipped with galvanized steel raised covers for device mounting flush with finished surface. Provide extension rings as required on all acoustical or additional wall treatment areas to bring top of cover flush with finished surface (coordinate with architectural drawings). Devices shall be capable of being tightly mounted to boxes without distorting or bending device or mounting hardware.
 3. Boxes for fixture outlets: 4-inch octagon or larger as required, or as noted.
 4. Switch and receptacle outlets - not smaller than 4-inch-square in furred walls, with raised cover for single device; ganged where required.
 5. All connectors from conduit to junction or outlet boxes shall have insulated throats. Connectors shall be manufactured with insulated throats as integral part. Insertable insulated throats are unacceptable.
 6. Conduit Bodies: Malleable iron type, with lubricated spring steel clips over edge of conduit body, O-Z/Gedney type EW, or equal.
- C. Wire and Cable (line voltage and signal systems):
1. 600-volt class where used for or run with line voltage power wiring, insulation color coded, minimum No. 12 awg for power branch circuits, No. 14 for power control circuits, and wiring size and type as directed by signal system manufacturer for each signal system.
 2. All conductors shall be copper.
 3. Size and insulation type:
 - a. Standard locations: #12 to #1 AWG: THWN for wet locations and THHN for dry locations. #1/0 through #4/0 AWG: XHHW (55 Mils). 250MCM and larger: XHHW

(65 Mils). All wire sizes used shall be based on a 75 degree insulation rating, unless specifically used with 90 degree rated breakers and devices.

- b. All wiring (power and signal) installed underground between buildings, or in wet or damp locations, shall be outside listed and rated for wet locations.
 - c. High temperature and non-standard locations: Provide wire type and insulation category suitable for area of use as defined in NEC table 310-13.
4. Conductors No. 10 and larger and as otherwise noted on drawings shall be stranded. Conductors No. 12 and smaller shall be solid.
 5. Install all wiring branch circuits and feeders (low voltage and line voltage) in conduit unless noted otherwise in the drawings. Contractor shall mandrel all feeders and pass a "sock" (or utilize other suitable means) through each raceway prior to pull to remove all water and construction debris. All raceways shall be completely clear of any obstructions or debris and all cut ends shall be reamed, prior to pull. Utilize pulling compound on all runs to insure minimum friction and pulling tension.
 6. Megger test all feeders prior to energizing. See section 26 08 00 for additional information.
 7. Approximately balance branch circuits about the neutral conductors in panels.
 8. Connections to devices from "thru-feed" branch circuit conductors to be made with pigtails, with no interruption of the branch circuit conductors.
 9. Neutral conductor identified by white outer braid, with different tracers of "EZ" numbering tags used where more than one neutral conductor is contained in a single raceway.
 10. Neatly arrange and "marlin" wires in panels and distribution panelboards with "T and B Ty-rap" or approved equal plastic type strapping.
 11. All wire and cable shall bear the Underwriters' Label, brought to the job in unbroken packages; wire color-coded as follows:

Voltage	Phasing	A	B	C	N
120/208	3PH4W	Black	Red	Blue	White
2083PH	3W	Black	Red	Blue	--
 12. The equipment grounding conductor shall be insulated copper; where it is insulated, the insulation shall be colored green.
 13. Label each wire of each electrical system in each pull box, junction box, outlet box, terminal cabinet, and panelboard in which it appears with "EZ" numbering tags indicating the connected circuit numbers.
 14. Install feeder cables in one continuous section unless splices are approved by Project Manager. Exercise care in pulling to avoid damage or disarrangement of conductors, using approved grips. No cable shall be bent to smaller radius than the spool on which it was delivered from the manufacturer. Color code feeder cables at terminals. Provide identifying linen tags in each pullbox.
- D. Switches: Model numbers are Hubbell, color to be selected by Project Manager, unless otherwise noted. All switches to utilize screw terminals for wire connections - no plug-in terminations:
1. Single Pole - No. HBL1221
 2. Two Pole - No. HBL1222
 3. Three Way - No. HBL1223
 4. Momentary contact - No. HBL1557
 5. Momentary contact Keyed - No. HBL1556L
- E. Receptacles: Mounting straps and contacts shall be one piece design, constructed of minimum .050" solid brass. Base shall be high strength, heat resistant, glass reinforced nylon. Device shall accept up to #10 wire, side or back wired with screw terminals - no plug-in terminations. Hubbell, Leviton, Pass & Seymore, or equal. Color to be black, unless otherwise noted. Numbers listed below are Hubbell:
1. 15A 3PG 125 volt duplex - No. HBL5262
 2. 20A 3PG 125 volt duplex - No. HBL5362

3. 20A 3PG 125 volt ground fault interrupter receptacle; GFI receptacles shall conform to the 2006 UL requirements to a) interrupt power to the unit in the event of internal failure, or b) provide an audible or visual indication of internal failure of the GFI; No. GF20 or equal. Through wiring to down stream GFI designated receptacles is not acceptable.
 4. 15A 3PG 125 volt controlled duplex receptacle - No. BR15C2GN
 5. 20A 3PG 125 volt controlled duplex receptacle - No. BR20C2GN
- F. Plates: Leviton, or equal, except as noted:
1. The color of all faceplates shall match the color of the devices installed under/in the faceplate, except as specifically noted otherwise.
 2. For outlet boxes, for switches, and receptacles: stainless steel.
 3. Plates for surface-mounted outlets: galvanized steel unless otherwise noted.
- G. Equipment Disconnects: All disconnects shall be located to allow proper code required clearance in each area. Locations shown on drawings are diagrammatic only. The contractor shall coordinate exact locations in the field (with other trades) prior to rough-in to insure proper clearances.
1. Motor Disconnect Switches and Safety Switches: General Electric Company Heavy Duty Type "THD", cover interlocked with operating handle so that cover cannot be opened with switch in closed position and switch cannot be closed with cover in open position. 240V or 480V rating, single or multi-pole as required or as noted on drawings, in Nema 1 enclosure indoors or Nema 3R enclosure outdoors unless otherwise noted. Provide dual element motor circuit fuses sized as recommended by equipment manufacturer (for final equipment actually installed).
 2. Code required disconnects: Provide a local disconnect in addition to the branch circuit protection device for all equipment as required by code (whether shown or not). Disconnects shall consist of a motor rated switch (or disconnect) for all motor loads less than 3/4HP or other suitable disconnect sized to match branch circuit conductors and load current of equipment, with number of poles as required.
- H. Lugs and Connectors: Thomas and Betts "lock-tite", for No. 4 and larger wire; 3M "Scotchlock" fixed spring screw-on type wire connectors with insulator for No. 6 and smaller wire.
1. All splices shall be made up with screw-on type connectors - no plug-in or push-in style connectors acceptable. Wires shall be solidly twisted together with electricians pliers before screw-on connector is installed to ensure a proper connection in the event of wire nut failure. No exceptions.
 2. Connectors listed or labeled for "no wire twisting required" are not an acceptable substitute for actual wire twisting.
 3. Utilize porcelain type connectors in all high temperature environments (above 105 degrees Celsius).
- I. Splice Insulation: "Scotch" electrical tape with vinyl plastic backing or rubber tape with protective friction tape for interior work.
- J. Identification: Refer to Section 26 05 00.
- K. Firestopping: as manufactured by 3M Fire Protection Products or equal.
1. Fire-rated and smoke barrier construction: Maintain barrier and structural floor fire and smoke resistance ratings including resistance to cold smoke at all penetrations, connections with other surfaces or types of construction, at separations required to permit building movement and sound vibration absorption, and at other construction gaps.
 2. Systems or devices listed in the UL Fire Resistance Directory under categories XHCR and XHEZ may be used, providing that it conforms to the construction type, penetration type, annular space requirements and fire rating involved in each separate instance, and that

the system be symmetrical for wall penetrations. Systems or devices must be asbestos free.

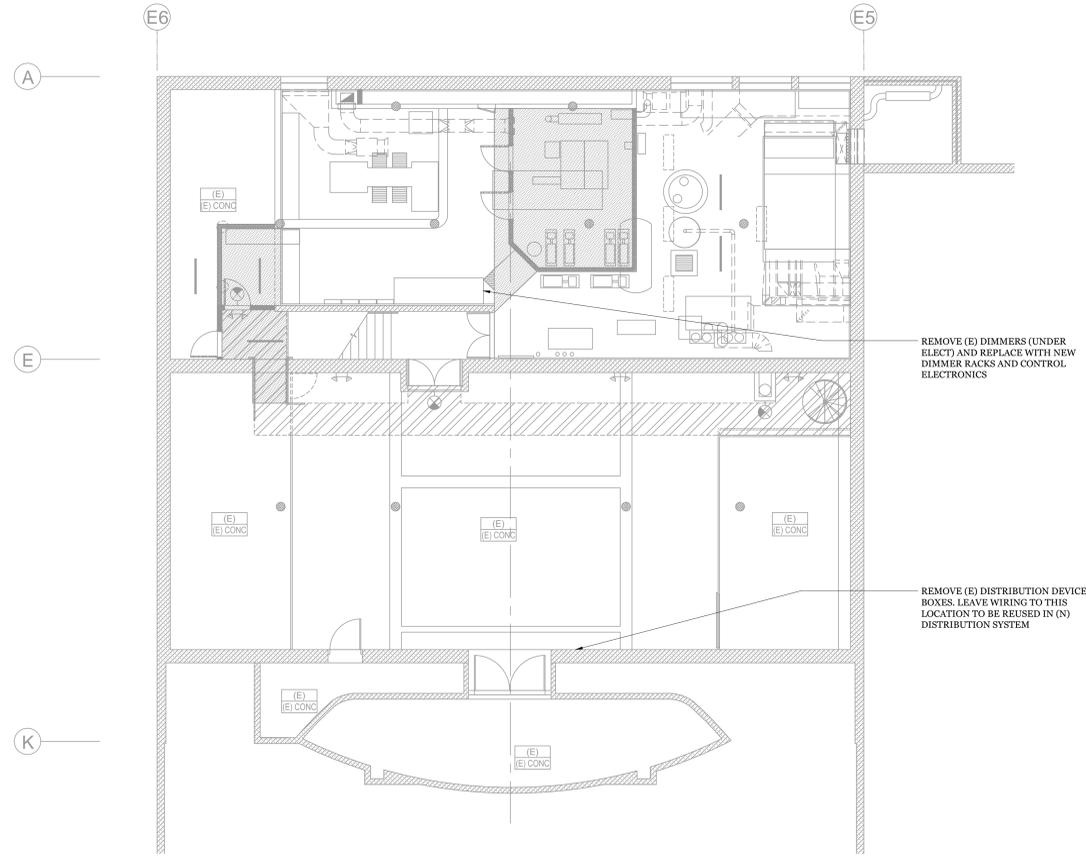
PART 3 - EXECUTION

3.01 REFER TO BASIC ELECTRICAL REQUIREMENTS - SECTION 26 05 00 FOR WORK UNDER THIS SECTION.

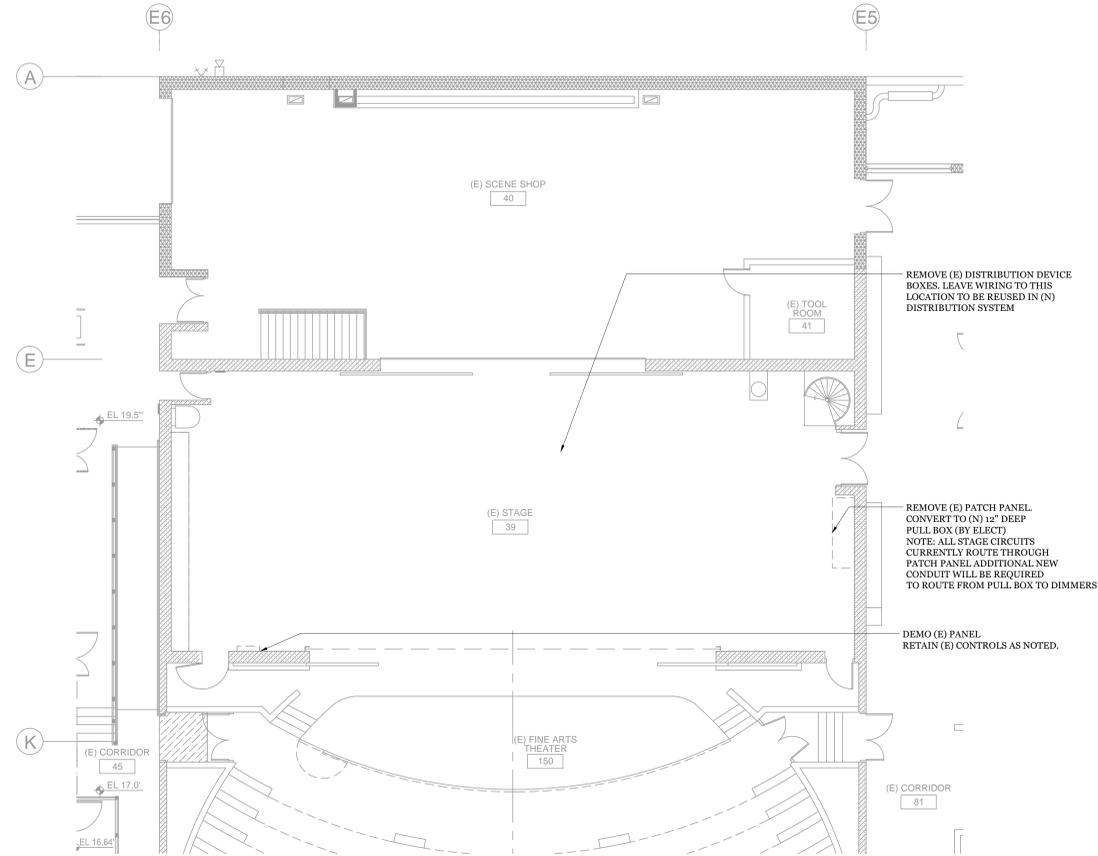
3.02 TESTS

A. Testing and Inspection: See Section 26 08 00 - Testing.

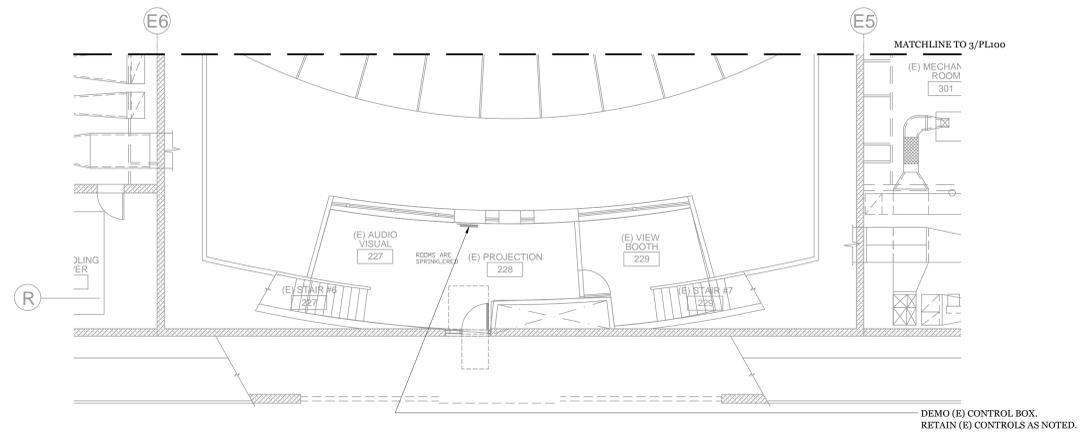
END OF SECTION



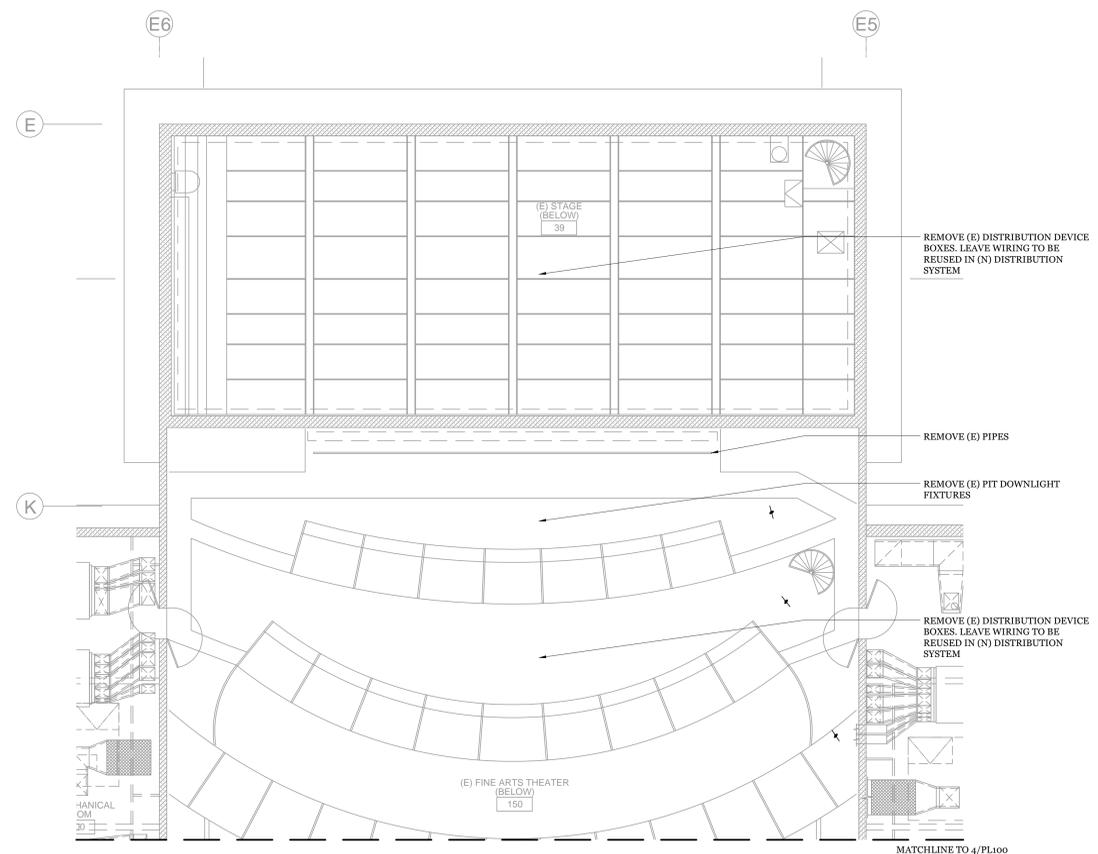
2 PRODUCTION LIGHTING DEMOLITION PLAN AT BASEMENT
1/4" = 1'-0"



1 PRODUCTION LIGHTING DEMOLITION PLAN AT FIRST FLOOR THEATRE
1/4" = 1'-0"



4 PRODUCTION LIGHTING DEMOLITION PLAN AT CONTROL BOOTH
1/4" = 1'-0"



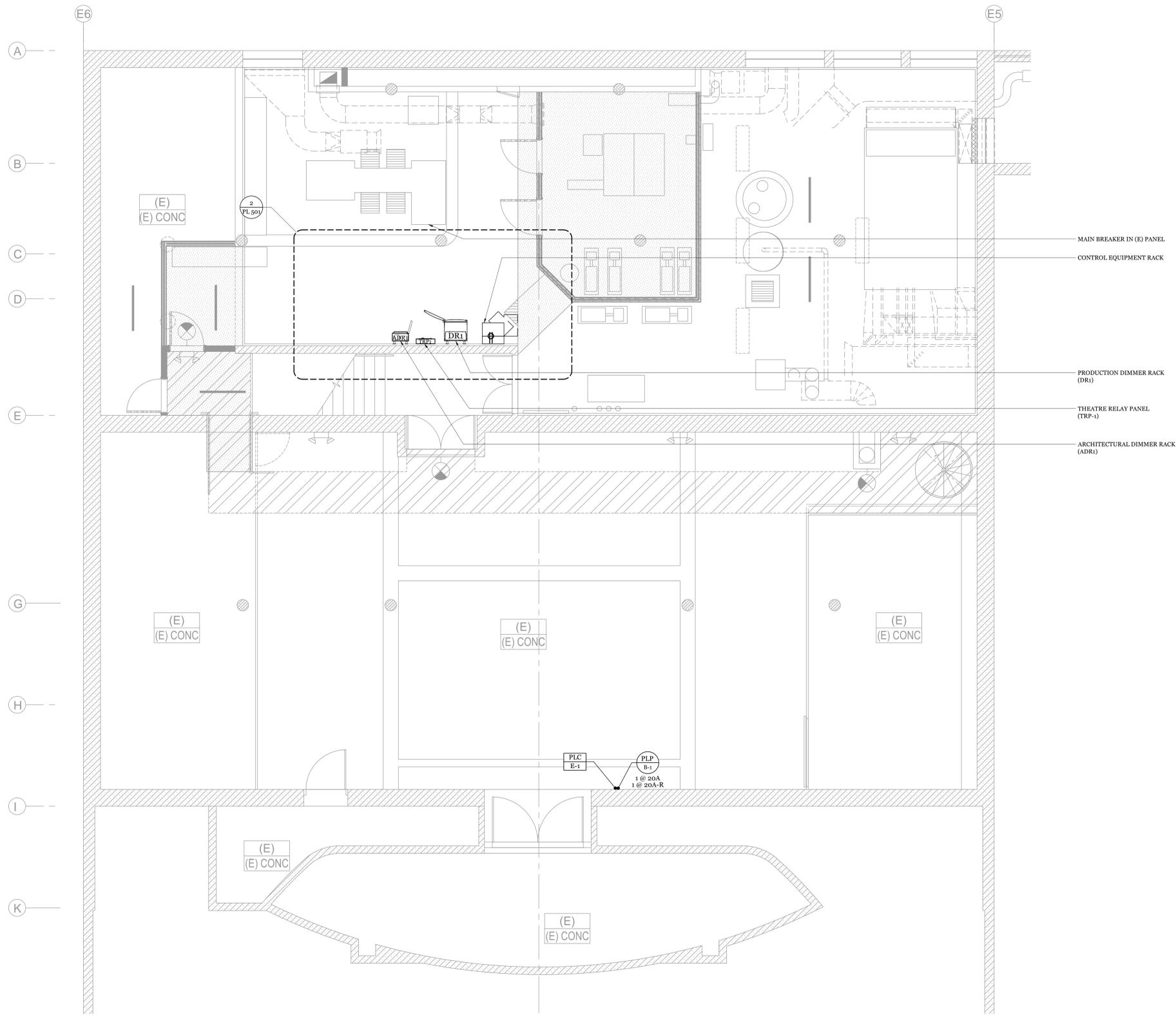
3 PRODUCTION LIGHTING DEMOLITION PLAN AT UPPER LEVELS THEATRE
1/4" = 1'-0"

The Shalleck Collaborative Inc.
310 Market St., Suite 5000
San Francisco, CA 94104

key plan

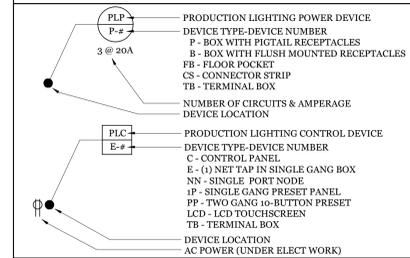
PERFORMING ARTS
LIGHTING UPGRADE
COLLEGE OF MARIN
KENTFIELD CAMPUS

Issue: 100% CD date: 12/21/15
drawn by: checked by:
scale: 1/4" = 1'-0"
PRODUCTION LIGHTING
DEMO - PLAN
PL-100



1 PRODUCTION LIGHTING DEVICE PLAN AT BASEMENT
1/4" = 1'-0"

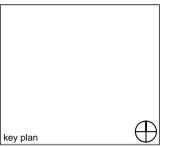
PRODUCTION LIGHTING SYMBOL KEY



LIGHTING GENERAL NOTES

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- REFERENCE SPECIFICATIONS AND ELECTRICAL DRAWINGS FOR DIVISION 16 INSTALLATION REQUIREMENTS OTHERWISE INDICATED.
- ALL CIRCUITS SHALL HAVE A DEDICATED HOMERUN UNLESS OTHERWISE INDICATED.
- ALL CIRCUITS SHALL HAVE A DEDICATED NEUTRAL. ALL POWER DEVICE BOXES SHALL HAVE AT LEAST ONE DEDICATED GROUND HOMERUN TO THE DIMMER RACK.
- CONDUIT SHALL NOT BE MOUNTED ON HORIZONTAL PIPE RAILINGS. RUN CONDUIT AT HANGERS ONLY.

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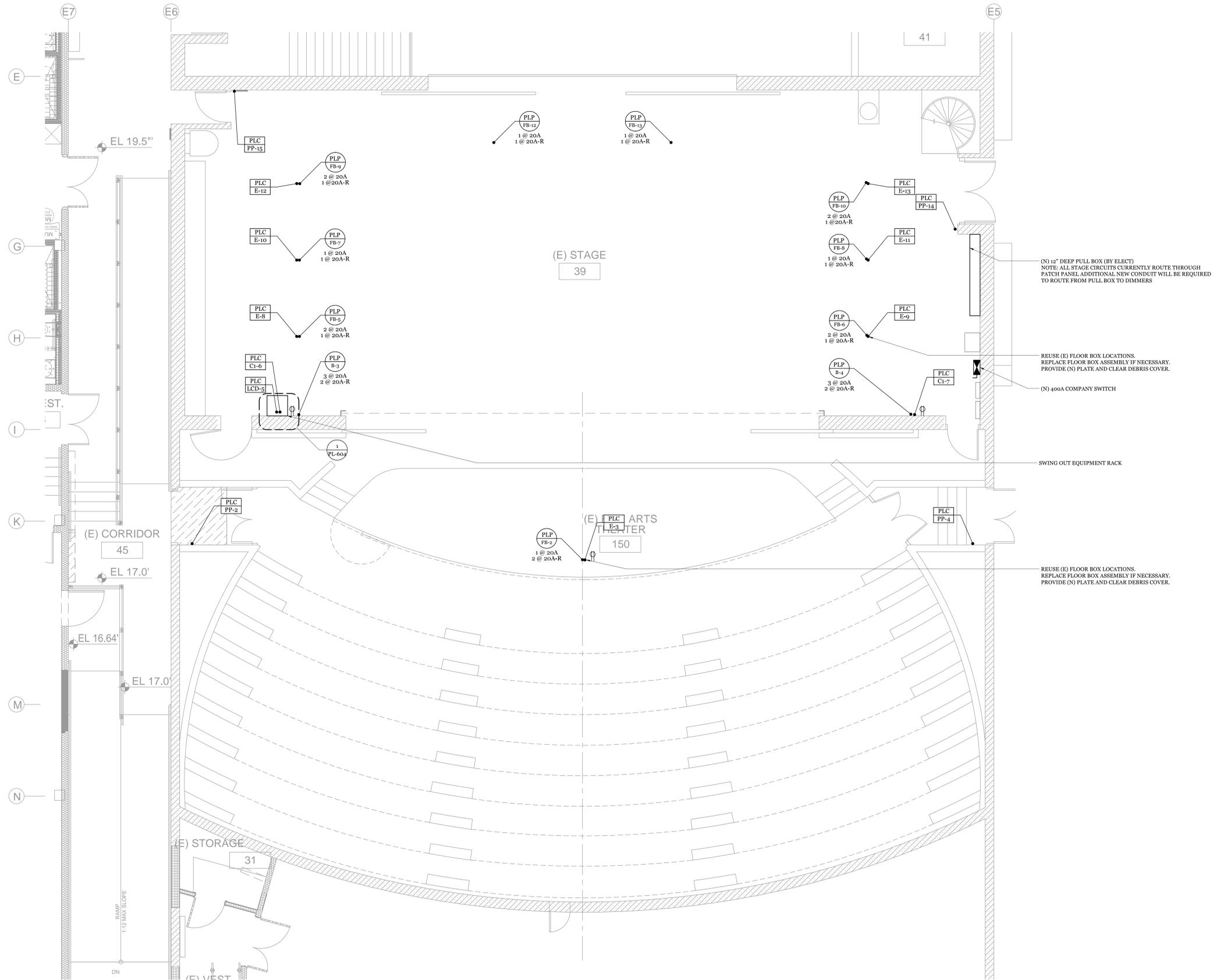


REV.	DATE	ISSUE

**PERFORMING ARTS
LIGHTING UPGRADE
COLLEGE OF MARIN
KENTFIELD CAMPUS**

Issue: 100% CD date: 12/21/15
drawn by: checked by:
scale: 1/4" = 1'-0"

**PRODUCTION LIGHTING
BASEMENT PLAN
PL-111**



(N) 12" DEEP PULL BOX (BY ELECT)
NOTE: ALL STAGE CIRCUITS CURRENTLY ROUTE THROUGH PATCH PANEL. ADDITIONAL NEW CONDUIT WILL BE REQUIRED TO ROUTE FROM PULL BOX TO DIMMERS

REUSE (E) FLOOR BOX LOCATIONS. REPLACE FLOOR BOX ASSEMBLY IF NECESSARY. PROVIDE (N) PLATE AND CLEAR DEBRIS COVER.

(N) 400A COMPANY SWITCH

SWING OUT EQUIPMENT RACK

REUSE (E) FLOOR BOX LOCATIONS. REPLACE FLOOR BOX ASSEMBLY IF NECESSARY. PROVIDE (N) PLATE AND CLEAR DEBRIS COVER.

PRODUCTION LIGHTING SYMBOL KEY

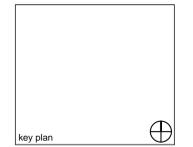
	PRODUCTION LIGHTING POWER DEVICE
	DEVICE TYPE-DEVICE NUMBER
	P - BOX WITH PIGTAIL RECEPTACLES
	B - BOX WITH FLUSH MOUNTED RECEPTACLES
	FB - FLOOR POCKET
	CS - CONNECTOR STRIP
	TB - TERMINAL BOX
	NUMBER OF CIRCUITS & AMPERAGE
	PRODUCTION LIGHTING CONTROL DEVICE
	DEVICE TYPE-DEVICE NUMBER
	C - CONTROL PANEL
	E - (1) NET TAP IN SINGLE GANG BOX
	NN - SINGLE PORT NODE
	IP - SINGLE GANG PRESET PANEL
	PP - TWO GANG 10-BUTTON PRESET
	LCD - LCD TOUCHSCREEN
	TB - TERMINAL BOX
	DEVICE LOCATION
	AC POWER (UNDER ELECT WORK)

LIGHTING GENERAL NOTES

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- CONDUIT SHALL NOT BE MOUNTED ON HORIZONTAL PIPE RAILINGS. RUN CONDUIT AT HANGERS ONLY.

1 PRODUCTION LIGHTING DEVICE PLAN AT FIRST FLOOR
1/4" = 1'-0"

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tel: 415-775-1100
fax: 415-862-8494



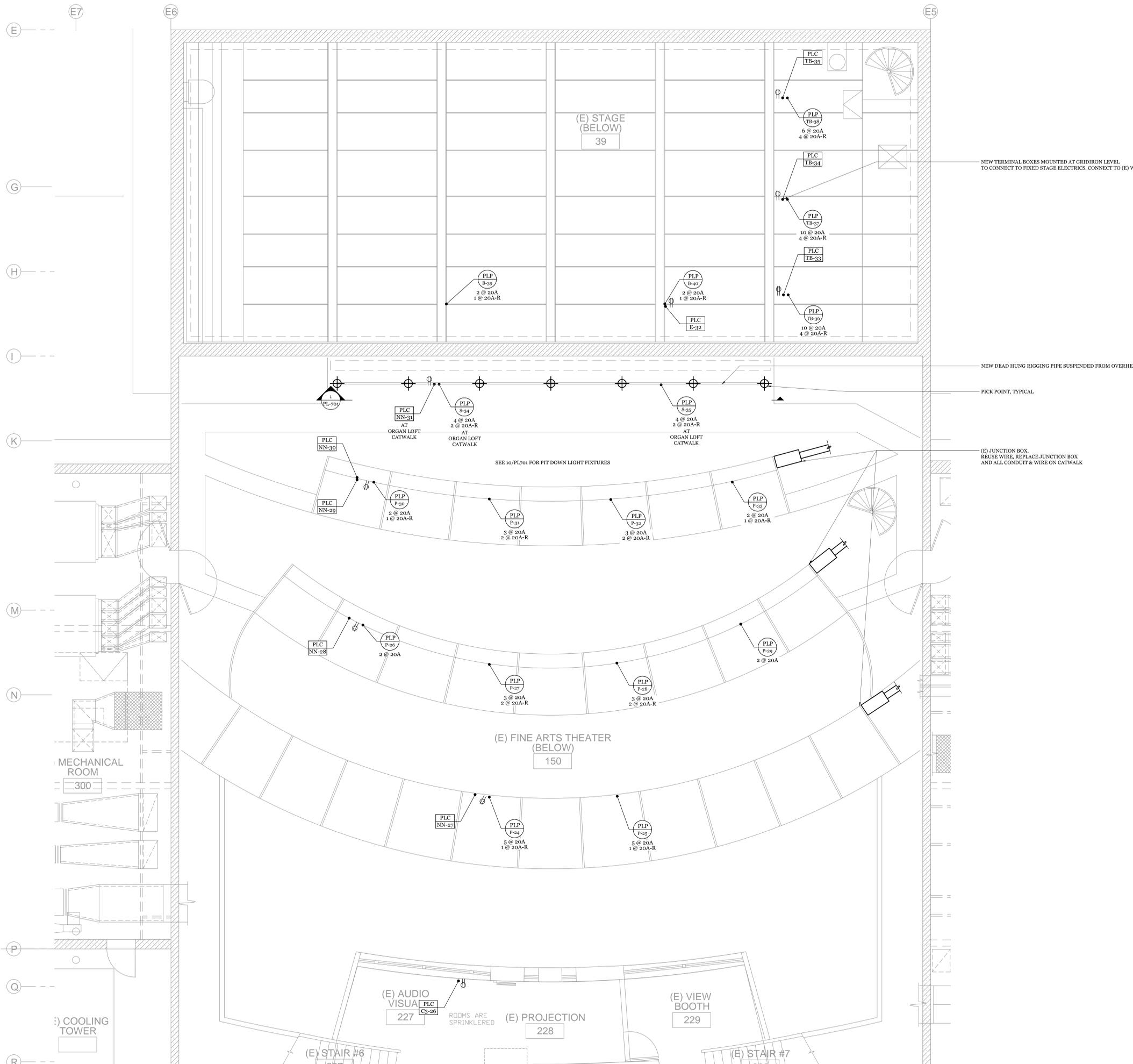
key plan

rev. date issue

100% CD date: 12/21/15
drawn by: checked by:
scale: 1/4" = 1'-0"

**PERFORMING ARTS
LIGHTING UPGRADE
COLLEGE OF MARIN
KENTFIELD CAMPUS**

**PRODUCTION LIGHTING
FIRST FLOOR THEATRE
PL-112**



NEW TERMINAL BOXES MOUNTED AT GRIDIRON LEVEL TO CONNECT TO FIXED STAGE ELECTRICS. CONNECT TO (E) WIRE.

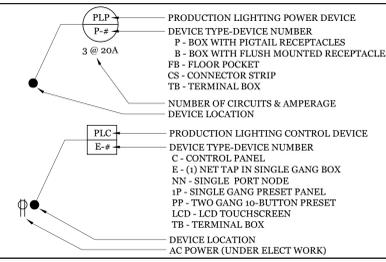
NEW DEAD HUNG RIGGING PIPE SUSPENDED FROM OVERHEAD STRUCTURE

PICK POINT, TYPICAL

(E) JUNCTION BOX. REUSE WIRE, REPLACE JUNCTION BOX AND ALL CONDUIT & WIRE ON CATWALK

SEE 10/PL701 FOR PIT DOWN LIGHT FIXTURES

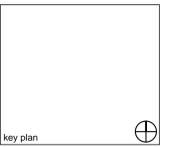
PRODUCTION LIGHTING SYMBOL KEY



LIGHTING GENERAL NOTES

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- CONDUIT SHALL NOT BE MOUNTED ON HORIZONTAL PIPE RAILINGS. RUN CONDUIT AT HANGERS ONLY

1 PRODUCTION LIGHTING DEVICE PLAN AT CATWALK AND GRIDIRON
 1/4" = 1'-0"



REV.	DATE	ISSUE

THEATRICAL LIGHTING CONTROL DEVICE SCHEDULE													
DEVICE TYPE	DEVICE NUMBER	ARCH LCD PLUG-IN	DMX-IN	1 PORT NODE	2 PORT NODE	INTEGRAL-AC	NETWORK TAPS		DEVICE DETAIL	FINISH	MOUNTING REF	NOTES	
							TAP-QTY	TAP-ID					
E	1								CER1	5/PL601	BLACK	SM @ 18" AFF	
PP	2								2/PL601	CUSTOM	SM @ SWITCH HT.		
E	3					1			CER2	5/PL601	BLACK	IN (E) FLOOR BOX	
PP	4								2/PL601	CUSTOM	SM @ SWITCH HT.		
LCD	5								8/PL601	BLACK	IN STAGE RACK		
C1	6	1		1		1	2		CER3,4,5	4/PL601	BLACK	IN STAGE RACK	
C1	7	1		1		1	2		CER6,7,8	9/PL601	BLACK	SM @ 18" AFF	
E	8			1					CER9	5/PL601	BLACK	IN (E) FLOOR BOX	
E	9			1					CER10	5/PL601	BLACK	IN (E) FLOOR BOX	
E	10			1					CER11	5/PL601	BLACK	IN (E) FLOOR BOX	
E	11			1					CER12	5/PL601	BLACK	IN (E) FLOOR BOX	
E	12			1					CER13	5/PL601	BLACK	IN (E) FLOOR BOX	
E	13			1					CER14	5/PL601	BLACK	IN (E) FLOOR BOX	
PP	14								2/PL601	BLACK	SM @ SWITCH HT.		
PP	15								2/PL601	BLACK	SM @ SWITCH HT.		
1P	16								2/PL601	CUSTOM	SM @ SWITCH HT.		
1P	17								2/PL601	CUSTOM	SM @ SWITCH HT.		
C2	18	1					2		CER16,17	10/PL601	BLACK	IN (E) FLOOR BOX	
E	19					1			CER18	5/PL601	BLACK	SM @ 18" AFF	
E	20					1			CER19	5/PL601	BLACK	SM @ 18" AFF	
E	21					1			CER20	5/PL601	BLACK	SM @ 18" AFF	
E	22					1			CER21	5/PL601	BLACK	SM @ 18" AFF	
NN	23				1	1			CER22	5/PL601	BLACK	3/PL602	
NN	24				1	1			CER23	5/PL601	BLACK	3/PL602	
NN	25				1	1			CER24	5/PL601	BLACK	3/PL602	
C3	26	1	1	1		1	3		CER25,26,27,28	1/PL601	BLACK	SM @ 18" AFF	
NN	27					1	1		CER29,30	6/PL601	BLACK	7/PL602	
NN	28					1	1		CER31,32	6/PL601	BLACK	7/PL602	
NN	29					1	1		CER33,34	6/PL601	BLACK	7/PL602	
NN	30					1			CER35,36	6/PL601	BLACK	7/PL602	
NN	31					1	1		CER37,38	6/PL601	BLACK	5/PL602	
E	32					1			CER39	5/PL601	BLACK	4/PL602	
TB	33					1			CER40	4/PL602	BLACK	4/PL602	
TB	34					1			CER41	4/PL602	BLACK	4/PL602	
TB	35					1			CER42	4/PL602	BLACK	4/PL602	

2 PRODUCTION LIGHTING CONTROL DEVICE SCHEDULE
NO SCALE

THEATRICAL LIGHTING POWER DEVICE SCHEDULE									
DEVICE TYPE	DEVICE NUMBER	2.4kw DIMMED CIRCUITS		RELAY CIRCUITS		DEVICE DETAIL	FINISH	MOUNTING REF	PARALLEL CIRCUITS
		CIRCUIT QTY	CIRCUIT #	CIRCUIT QTY	CIRCUIT #				
B	1	1	96	1	48	2/PL602	BLACK	SM @ 18" AFF	
FB	2	1	95	2	46-47	12/PL601	BLACK	IN (E) FLOOR BOX	
B	3	3	93-95	2	44-45	2/PL602	BLACK	SM @ 18" AFF	A
B	4	3	91-93	2	42-43	2/PL602	BLACK	SM @ 18" AFF	B
FB	5	2	83-84	1	41	12/PL601	BLACK	IN (E) FLOOR BOX	F
FB	6	2	81-82	1	40	12/PL601	BLACK	IN (E) FLOOR BOX	G
FB	7	1	86	1	39	12/PL601	BLACK	IN (E) FLOOR BOX	
FB	8	1	85	1	38	12/PL601	BLACK	IN (E) FLOOR BOX	
FB	9	2	83-84	1	41	12/PL601	BLACK	IN (E) FLOOR BOX	F
FB	10	2	81-82	1	40	12/PL601	BLACK	IN (E) FLOOR BOX	G
FB	12	1	80	1	37	12/PL601	BLACK	IN (E) FLOOR BOX	
FB	13	1	79	1	36	12/PL601	BLACK	IN (E) FLOOR BOX	
B	15	4	75-78	2	34-35	2/PL602	BLACK	SM @ 18" AFF	
B	16	4	72-75	2	32-33	2/PL602	BLACK	SM @ 18" AFF	
B	17	2	70-71	1	31	2/PL602	BLACK	SM @ 18" AFF	
B	18	2	68-69	1	30	2/PL602	BLACK	SM @ 18" AFF	
B	19	3	93-95	2	44-45	2/PL602	BLACK	SM @ 12" AFF	A
B	20	3	91-93	2	42-43	2/PL602	BLACK	SM @ 12" AFF	B
CS	21	10	21-30	4	11-14	3/PL602	BLACK	3/PL602	C
CS	22	10	11-20	4	7-10	3/PL602	BLACK	3/PL602	D
CS	23	6	5-10	4	3-6	3/PL602	BLACK	3/PL602	E
P	24	5	63-67	1	29	1/PL602	BLACK	7/PL602	
P	25	5	58-62	1	28	1/PL602	BLACK	7/PL602	
P	26	2	56-57			1/PL602	BLACK	7/PL602	
P	27	3	53-55	2	26-27	1/PL602	BLACK	7/PL602	
P	28	3	50-52	2	24-25	1/PL602	BLACK	7/PL602	
P	29	2	49-50			1/PL602	BLACK	7/PL602	
P	30	2	47-48	1	23	1/PL602	BLACK	7/PL602	
P	31	3	44-46	2	21-22	1/PL602	BLACK	7/PL602	
P	32	3	41-43	2	19-20	1/PL602	BLACK	7/PL602	
P	33	2	39-40	1	18	1/PL602	BLACK	7/PL602	
S	34	4	35-38	2	16-17	10/PL602	BLACK	6/PL602	
S	35	4	31-34	2	15-16	10/PL602	BLACK	6/PL602	
TB	36	10	21-30	4	11-14	6/PL602	BLACK	4/PL602	C
TB	37	10	11-20	4	7-10	6/PL602	BLACK	4/PL602	D
TB	38	6	5-10	4	3-6	6/PL602	BLACK	4/PL602	E
B	39	2	3-4	1	2	2/PL602	BLACK	AT EXISTING	
B	40	2	1-2	1	1	2/PL602	BLACK	AT EXISTING	

1 PRODUCTION LIGHTING POWER DEVICE SCHEDULE
NO SCALE

The Shalleck Collaborative Inc.
310 Market St., Suite 5000
San Francisco, CA 94104
Tel: 415-775-1100
Fax: 415-775-1101



key plan

rev. date issue

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**PERFORMING ARTS
LIGHTING UPGRADE
COLLEGE OF MARIN
KENTFIELD CAMPUS**

Issue: 100% CD date: 12/21/15
drawn by: checked by:
scale: AS NOTED

**PRODUCTION LIGHTING
SCHEDULES
PL-502**

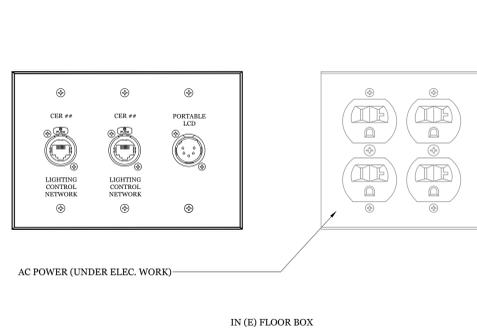
key plan

rev. date issue

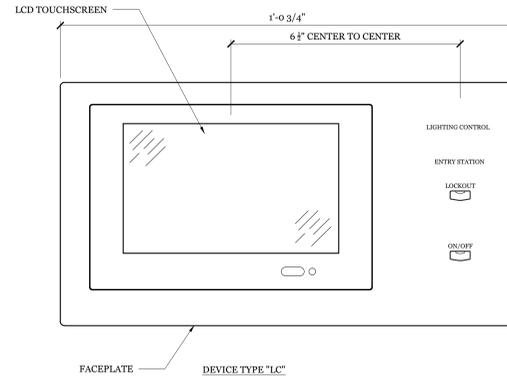
PERFORMING ARTS
LIGHTING UPGRADE
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KENTFIELD CAMPUS

Issue: 100% CD date: 12/21/15
drawn by: checked by:

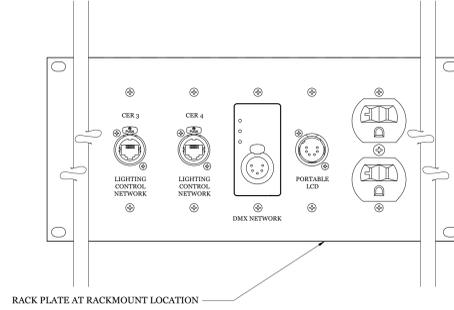
scale: AS NOTED
PRODUCTION LIGHTING
CONTROL DEVICE DETAILS
PL-601



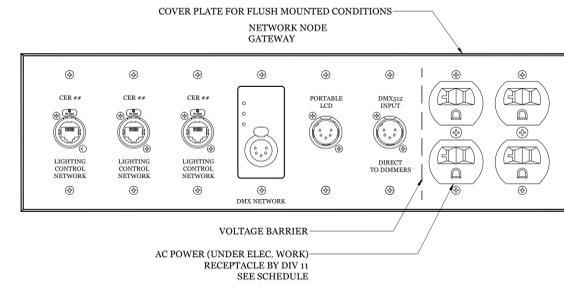
10 PLC DEVICE "C2"
HALF FULL SCALE



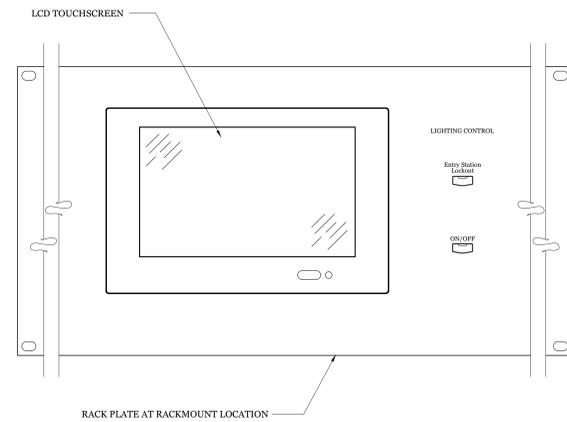
7 PLC TYPE "LC" - TOUCHSCREEN CONTROL STATION
HALF FULL SCALE THIS DEVICE WEIGHS LESS THAN 20#



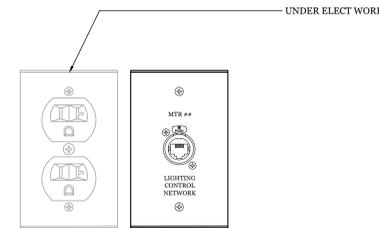
4 PLC DEVICE "C1" - RACK MOUNTED
HALF FULL SCALE THIS DEVICE WEIGHS LESS THAN 20#



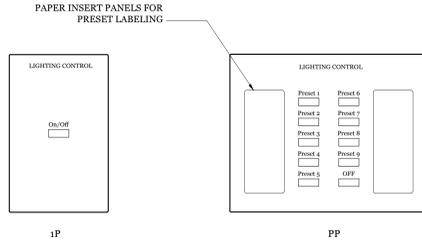
1 PLC DEVICE "C3"
HALF FULL SCALE THIS DEVICE WEIGHS LESS THAN 20#



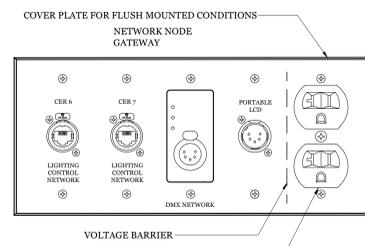
8 PLD DEVICE "LC"
HALF FULL SCALE THIS DEVICE WEIGHS LESS THAN 20#



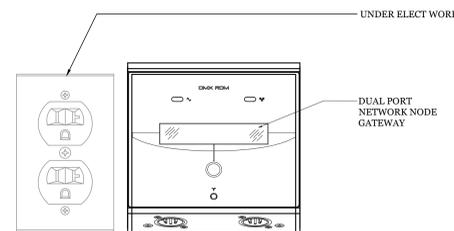
5 PLC DEVICE "E" - ETHERNET TAP
HALF FULL SCALE



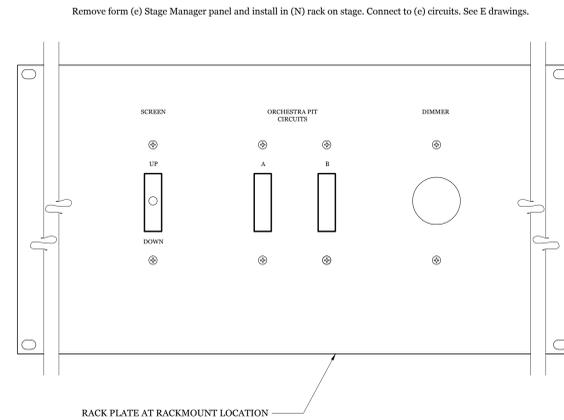
2 PLC DEVICE "1P", "5P", & "PP" - ARCH. CONTROL STATION#
HALF FULL SCALE



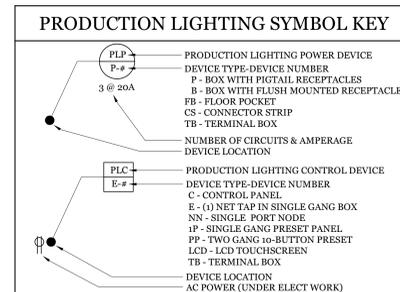
9 PLC DEVICE "C1" - RACK MOUNTED
HALF FULL SCALE THIS DEVICE WEIGHS LESS THAN 20#



6 PLC DEVICE "NN" - SINGLE PORT NODE
HALF FULL SCALE THIS DEVICE WEIGHS LESS THAN 20#

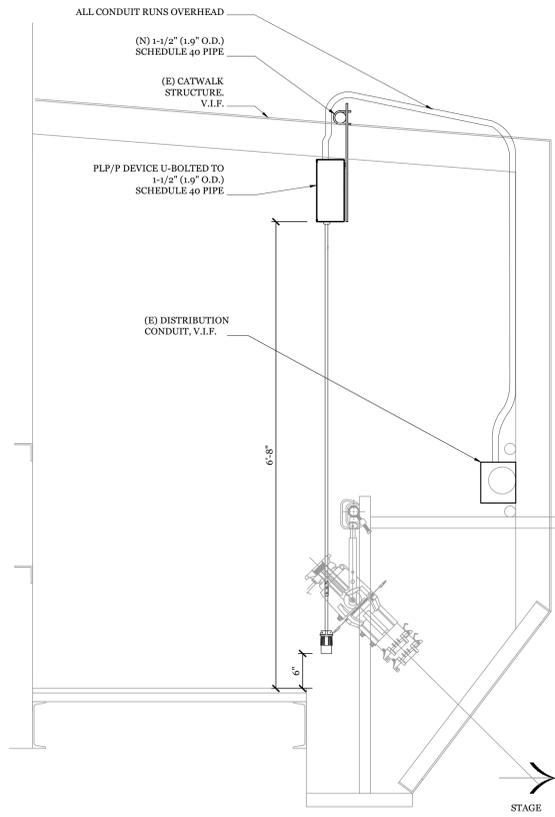


3 RACK PANEL "A" (EXISTING)
HALF FULL SCALE



LIGHTING GENERAL NOTES

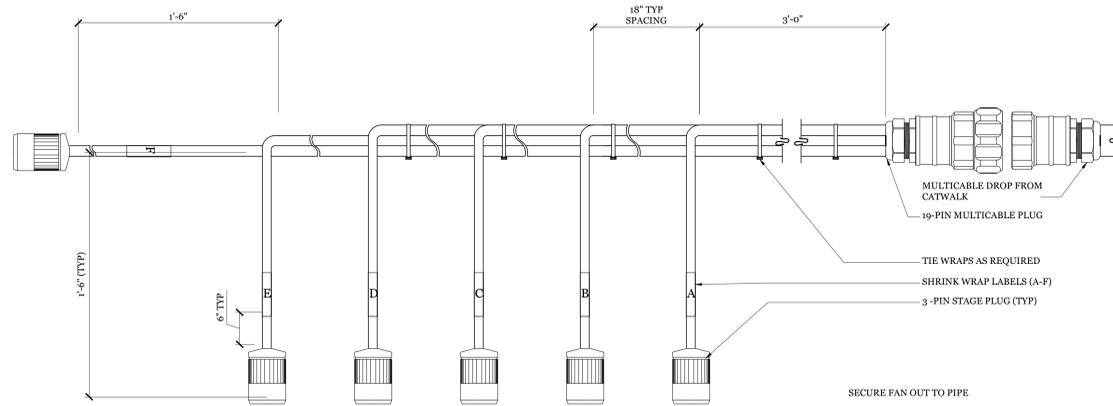
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7 FRONT OF HOUSE CATWALK DETAIL
1" = 1'-0"

5 NOT USED
THIS DEVICE WEIGHS LESS THAN 20#

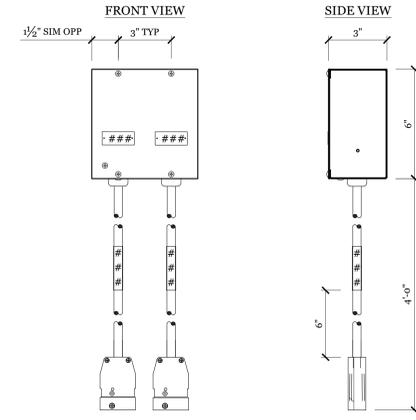
4 TERMINAL BOX MOUNTING AT GRID
1" = 1'-0"



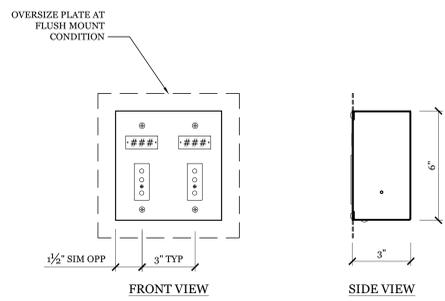
6 MULTI-CABLE FAN OUT
3" = 1'-0"

4 TERMINAL BOX MOUNTING AT GRID
1" = 1'-0"

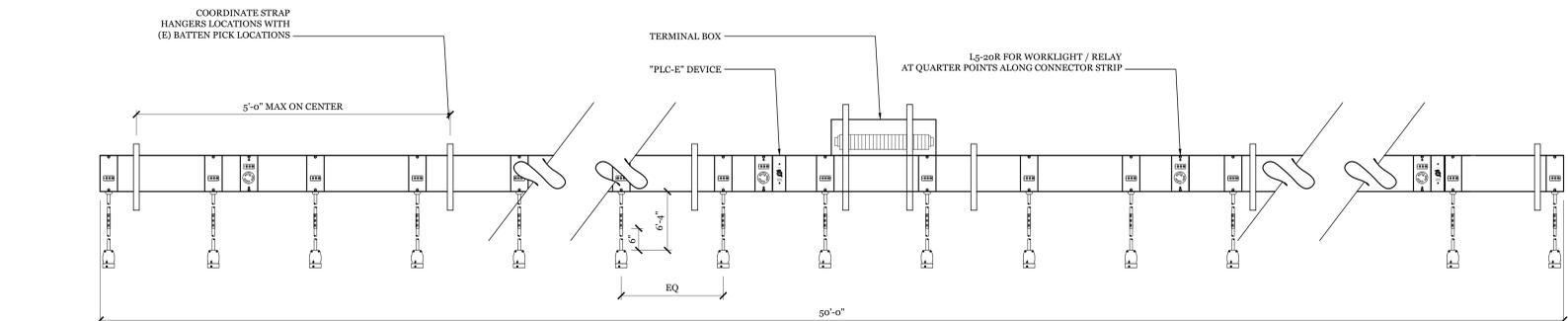
1 PLP TYPE "P" - PIGTAIL BOX
3" = 1'-0"



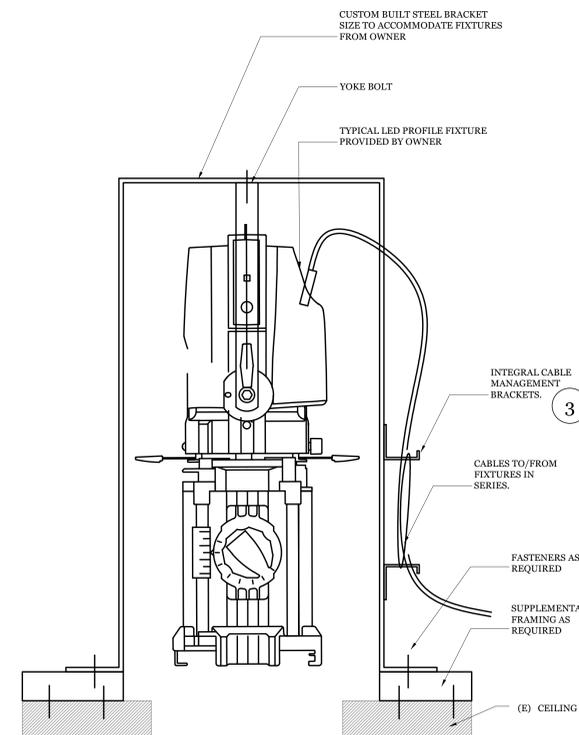
2 PLP TYPE "B" - RECEPTACLE BOX
3" = 1'-0"



3 PLP TYPE "CP" - DEVICE DETAIL
1" = 1'-0"



8 PIT DOWNLIGHT
3" = 1'-0"

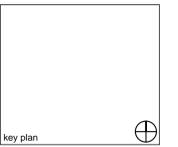


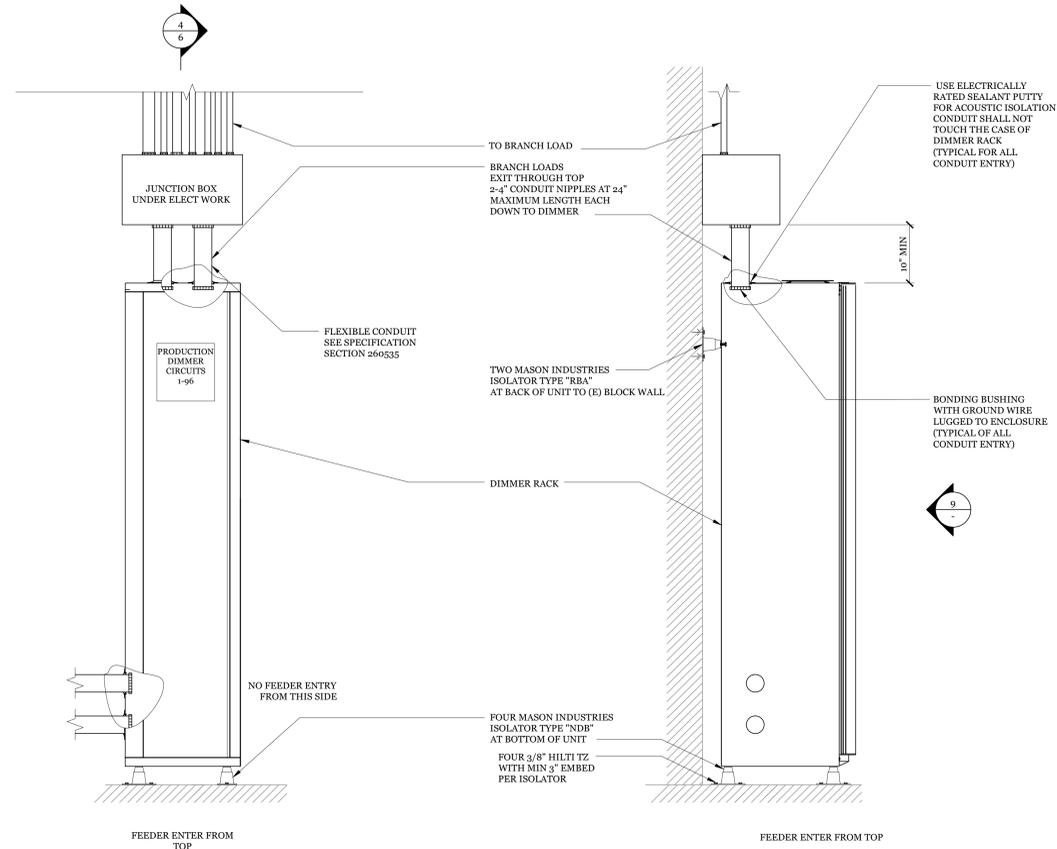
PRODUCTION LIGHTING SYMBOL KEY

	PRODUCTION LIGHTING POWER DEVICE
	DEVICE TYPE-DEVICE NUMBER
	B- BOX WITH FLUSH MOUNTED RECEPTACLES
	FB- FLOOR POCKET
	CS- CONNECTOR STRIP
	TB- TERMINAL BOX
	NUMBER OF CIRCUITS & AMPERAGE DEVICE LOCATION
	PRODUCTION LIGHTING CONTROL DEVICE
	DEVICE TYPE-DEVICE NUMBER
	C- CONTROL PANEL
	NET TAP IN SINGLE GANG BOX
	NN- SINGLE PORT NODE
	1P- SINGLE GANG PRESET PANEL
	PP- TWO GANG 10-BUTTON PRESET
	LCD- LCD TOUCHSCREEN
	TB- TERMINAL BOX
	DEVICE LOCATION
	AC POWER (UNDER ELECT WORK)

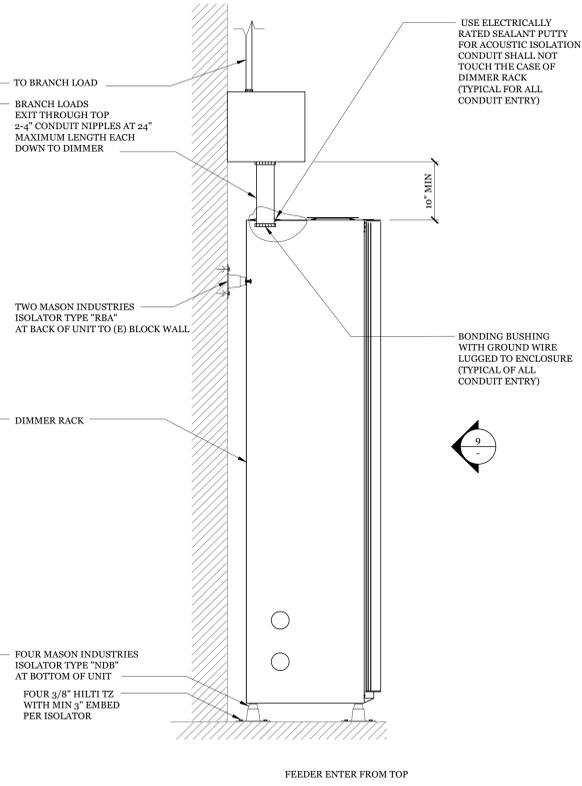
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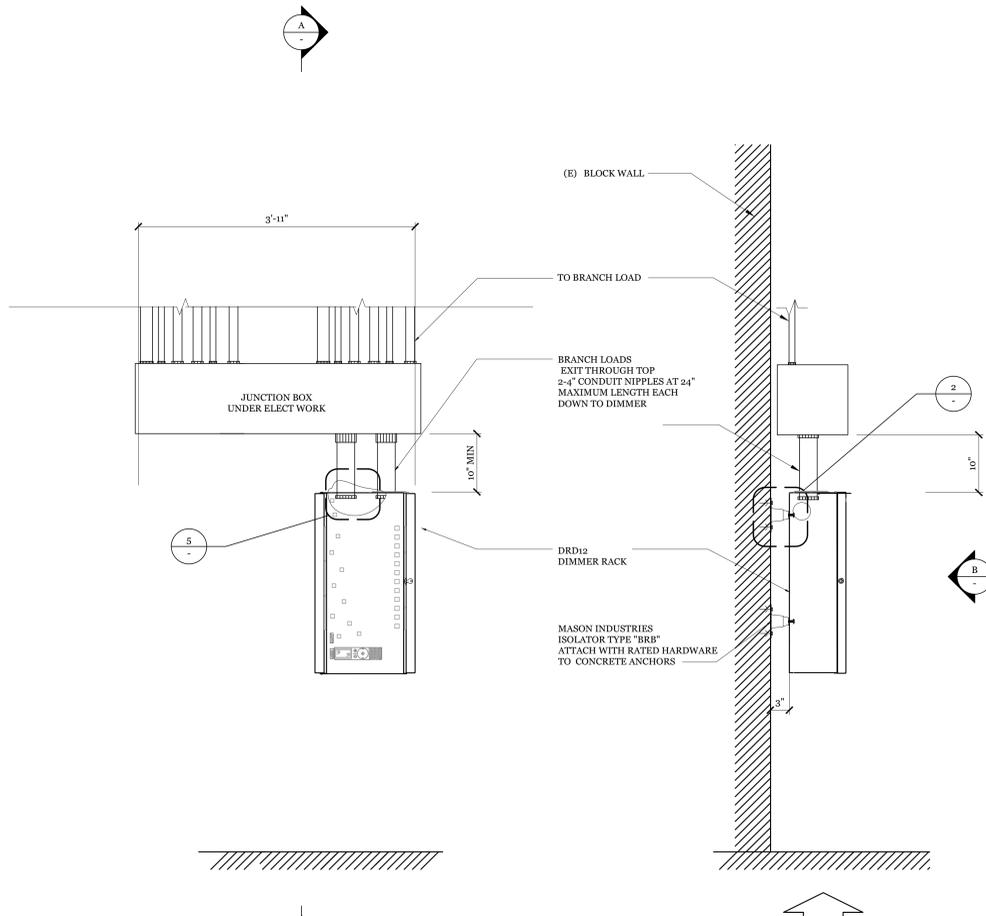




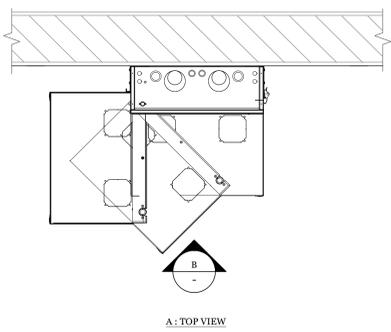
7 PRODUCTION DIMMER RACK MOUNTING
1" = 1'-0" MAX WEIGHT = 500#



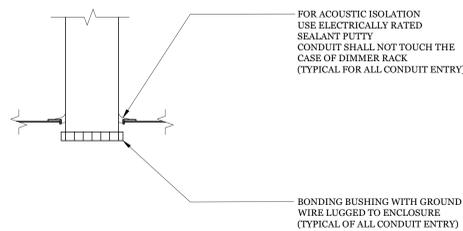
4 PRODUCTION DIMMER RACK MOUNTING SECTION
1" = 1'-0" MAX WEIGHT = 500#



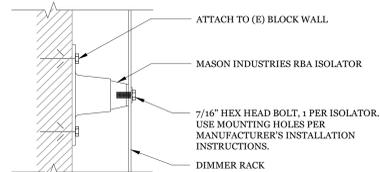
1 ARCHITECTURAL DIMMER RACK MOUNTING
1" = 1'-0" FULL RACK WEIGHT 500 LBS. EA.



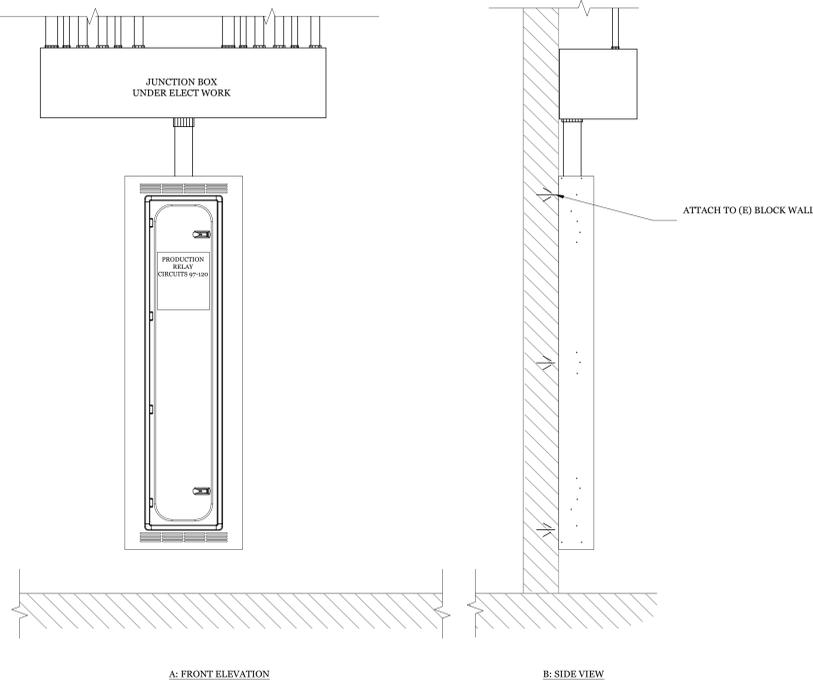
9 CONTROL EQUIPMENT RACK (CER) MOUNTING - ELEVATION
1" = 1'-0"



5 DETAIL OF CONDUIT ENTRY
3" = 1'-0"



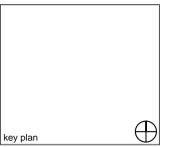
2 DETAIL OF ISOLATOR TYPE "BR" MOUNTING
1" = 1'-0"



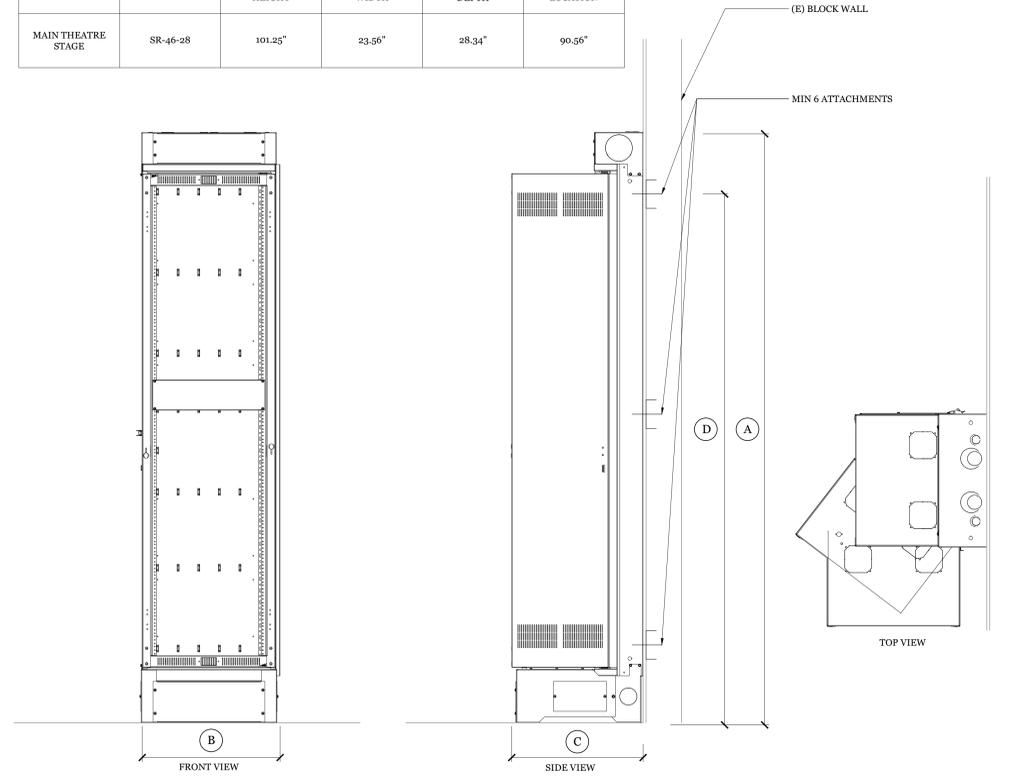
3 THEATRE AND ARCHITECTURAL RELAY PANEL MOUNTING
1" = 1'-0"

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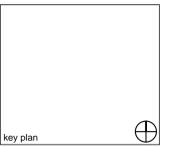
SWING-OUT AV RACK					
LOCATION	MODEL	A OVERALL HEIGHT	B OVERALL WIDTH	C OVERALL DEPTH	D MOUNTING LOCATION
MAIN THEATRE STAGE	SR-46-28	101.25"	23.56"	28.34"	90.56"



1 MODEL SR - RACK DETAILS
 1" = 1'-0"

TOTAL WEIGHT: 770LBS.

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 Lighting, Acoustics, Fire and Production Systems
 310 Market St., Suite 2000 San Francisco, CA 94104
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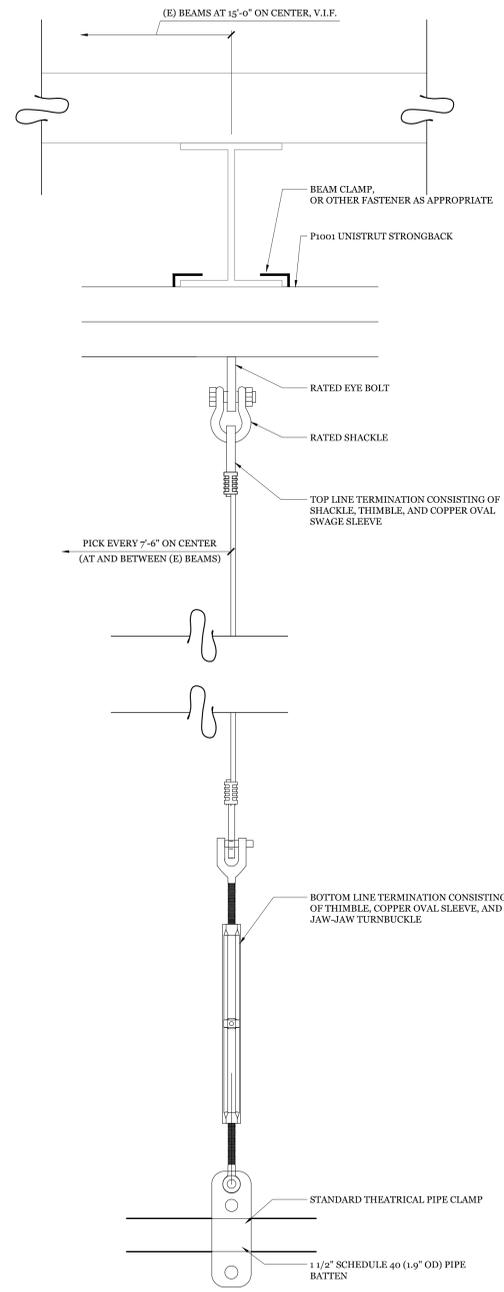
REV.	DATE	ISSUE

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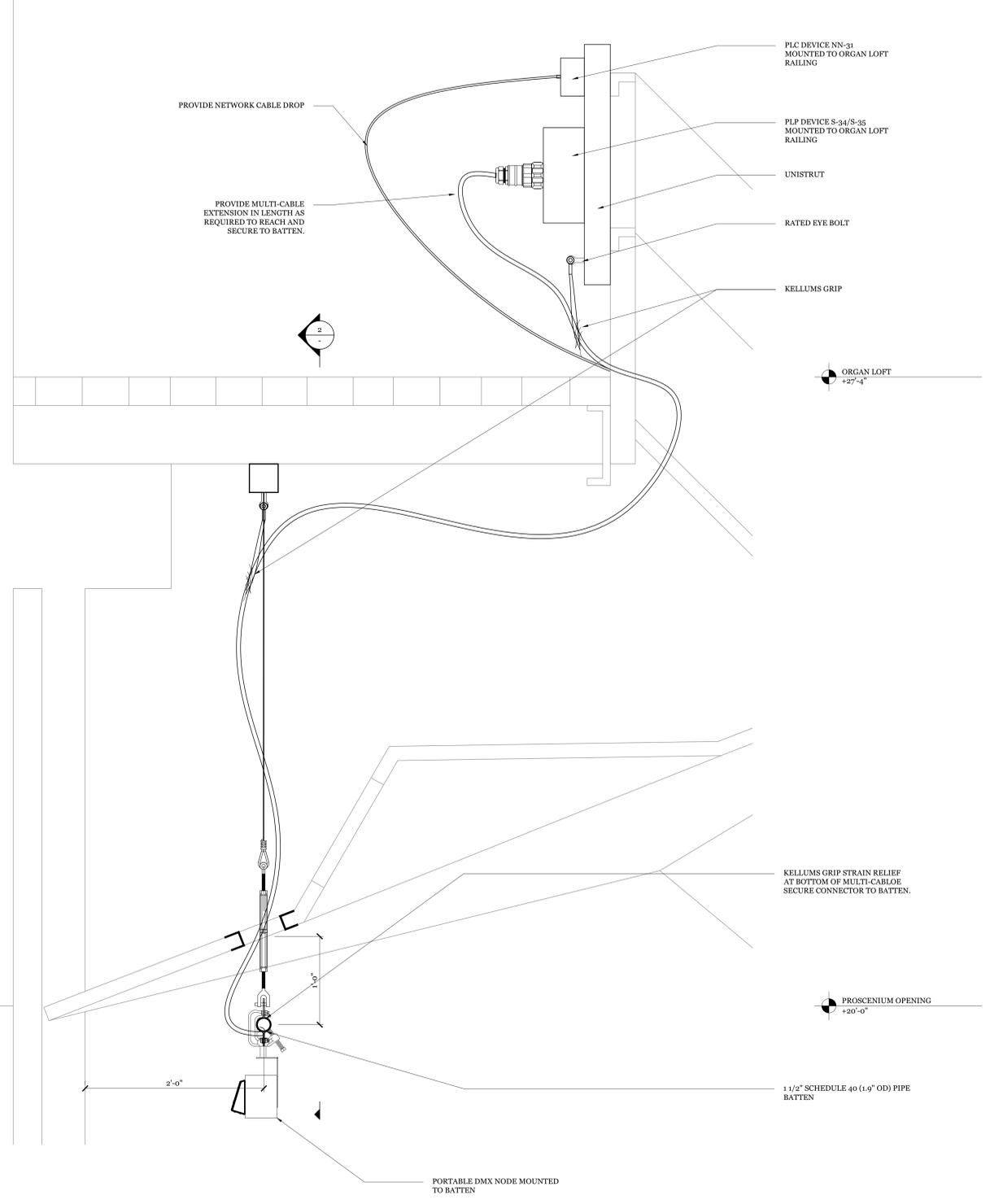
PERFORMING ARTS LIGHTING UPGRADE
COLLEGE OF MARIN
KENTFIELD CAMPUS

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PRODUCTION LIGHTING STAGE EQUIPMENT RACK PL-604



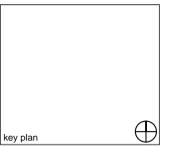
5 DEAD HUNG BATTEN
3' = 1'-0"



5 DEAD HUNG BATTEN
3' = 1'-0"

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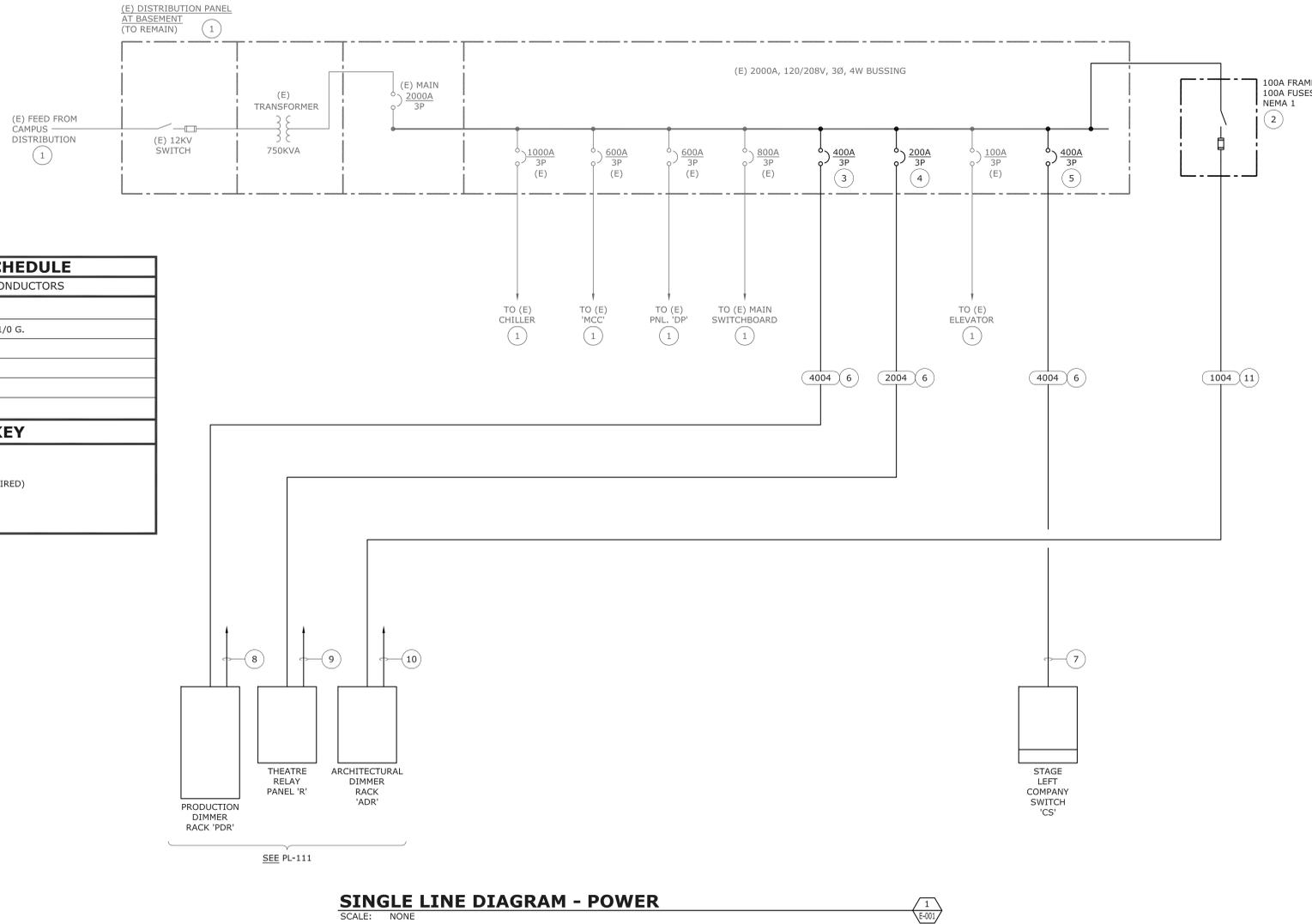
PERFORMING ARTS
LIGHTING UPGRADE
COLLEGE OF MARIN
KENTFIELD CAMPUS

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drawn by: checked by:
scale: AS NOTED 1" = 1'-0"

PRODUCTION LIGHTING
FRONT OF HOUSE PIPE
PL-701

COPPER FEEDER SCHEDULE		
FEEDER	CONDUIT	CONDUCTORS
4004	(1) 4"	(4) 500 MCM & (1) #1/0 G.
2004	(1) 2"	(4) #3/0 & (1) #4 G.
1004	(1) 2"	(4) #2 & (1) #6 G.

FEEDER TAG KEY	
400 ± N	INDICATES DOUBLE NEUTRAL (IF REQUIRED)
—	WIRE QUANTITY
—	FEEDER AMPACITY

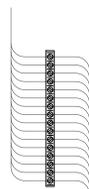


SYMBOLS LIST	
	MAIN SWITCHBOARD, DISTRIBUTION PANEL OR MOTOR CONTROL CENTER
	FLUSH MOUNTED PANELBOARD, 6'-6" TO TOP
	SURFACE MOUNTED PANELBOARD, 6'-6" TO TOP
	CEILING MOUNTED JUNCTION BOX
	WALL MOUNTED JUNCTION BOX
	20A 3PG 125V DUPLEX RECEPTACLE
	CONDUIT AND WIRE CONCEALED IN CEILING OR WALL
	CONDUIT AND WIRE CONCEALED IN OR UNDER SLAB OR UNDERGROUND
	CONDUIT AND WIRE RUN EXPOSED
	CROSSMARKS INDICATE QUANTITY OF #12 CONDUCTORS PLUS PARITY SIZED GROUND CONDUCTOR (INCLUDED BUT NOT INDICATED), NO HASHMARKS INDICATES (2) #12 CONDUCTORS PLUS PARITY SIZED GROUND CONDUCTOR, U.O.N.
	GROUND WIRE
	(#10) WIRE SIZE 10 AWG FOR ALL CONDUCTORS, INCLUDING GROUND WIRE, THROUGHOUT THE COMPLETE CIRCUIT
	FLEXIBLE METALLIC CONDUIT
	HOMERUN TO PANELBOARD OR TERMINAL BOARD, AS NOTED ON PLANS
	COMPLETE CONNECTION OF EQUIPMENT
	CONDUIT STUBBED OUT, CAPPED AND MARKED
	CONDUIT TURNED UP
	CONDUIT TURNED DOWN
	DETAIL DESIGNATION - SEE DETAIL 3, SHEET E-6
	NUMBERED SHEET NOTE

- GENERAL NOTES**
- PRIOR TO BID THE CONTRACTOR SHALL VISIT THE SITE TO ADEQUATELY DETERMINE ALL PRE-EXISTING CONDITIONS. BY THE ACT OF SUBMITTING A BID, THE CONTRACTOR WILL BE DEEMED TO HAVE COMPLIED WITH THE FOREGOING, TO HAVE ACCEPTED SUCH CONDITIONS, AND TO HAVE MADE ALLOWANCES THEREFORE IN PREPARING THE BID.
 - PROVIDE DEDICATED NEUTRAL CONDUCTORS FOR ALL PRODUCTION LIGHTING, RELAY, AND ARCHITECTURAL LIGHTING CIRCUITS, WITH CODE SIZED GROUND CONDUCTOR ON EACH RACEWAY.
 - PROVIDE PULLROPE IN ANY EMPTY CONDUITS THROUGHOUT THE PROJECT.
 - REFER TO THEATRICAL PLANS FOR EXACT LOCATION & CONNECTION REQUIREMENTS OF ALL DEVICES, OUTLET, SWITCH, AND ELECTRICAL RELATED DEVICE MOUNTING HEIGHTS AND LOCATIONS.
 - ALL CONDUIT PENETRATIONS THROUGH FIRE-RATED WALLS AND/OR FLOORS SHALL BE SEALED AND EQUIPPED WITH U.L. LISTED FIRE PENETRATION ASSEMBLIES TO MAINTAIN FIRE SEPARATION RATING.
 - CIRCUITRY AND CONDUIT ROUTING SHOWN ON THE PLANS IS DIAGRAMMATIC ONLY. THIS CONTRACTOR IS RESPONSIBLE FOR BECOMING COMPLETELY FAMILIAR WITH THE ARCHITECTURAL AND STRUCTURAL CONDITIONS AND LIMITATIONS IN THE BUILDING AND TO PROVIDE ALL LABOR, TOOLS AND MATERIALS REQUIRED TO PROVIDE THE INSTALLATION AND ROUTING TO MATCH THE SITE CONDITIONS.
 - MAINTAIN "AS-BUILT" RECORDS AT ALL TIMES, SHOWING EXACT LOCATION OF ALL CONCEALED CONDUITS AND SERVICES INSTALLED UNDER THIS CONTRACT, INCLUDING CIRCUIT IDENTIFICATION WHERE APPLICABLE. PROVIDE OWNER WITH "AS-BUILT" DOCUMENTS AS INDICATED IN THE SPECIFICATIONS.
 - DRAWINGS INDICATE THE LOCATION OF DEVICES, FIXTURES AND EQUIPMENT AND THE CIRCUIT NUMBER AND PANEL DESIGNATION WHICH SUPPLIES THEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETELY CONNECTING ALL ELECTRICAL DEVICES TO CIRCUITS INDICATED ON THE DRAWINGS.
 - UNLESS OTHERWISE NOTED, ALL WORK SHOWN ON DRAWINGS IS NEW AND TO BE PROVIDED AND INSTALLED UNDER THIS CONTRACT.
 - ALL EQUIPMENT GROUNDING SHALL CONFORM TO ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE, LATEST EDITION.
 - ALL ELECTRICAL WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH THE LATEST EDITION OF THE N.E.C., AS WELL AS STATE, AND LOCAL CODES AND REQUIREMENTS.
 - ALL CONDUIT CONNECTORS TO OUTLET OR JUNCTION BOXES SHALL HAVE INSULATED THROATS (MANUFACTURED AS AN INTEGRAL PART OF THE CONNECTOR). AFTER-MARKET INSERTABLE THROATS ARE NOT ACCEPTABLE.
 - ALL CIRCUITS IN ALL JUNCTION BOXES AND DEVICES SHALL BE CLEARLY IDENTIFIED BY MEANS OF "EZ" NUMBERING TAGS OR EQUIVALENT TO IDENTIFY THE CIRCUIT NUMBER OR RELAY SUPPLYING THE CONDUCTOR.

- NUMBERED SHEET NOTES**
- (E) EQUIPMENT AND ALL RELATED FEEDERS TO REMAIN. PROTECT IN PLACE, U.O.N.
 - MOUNT (N) FUSED DISCONNECT TO SIDE OF (E) SWITCHBOARD AT +6' TO TOP. PROVIDE ENGRAVED NAMEPLATE "ARCHITECTURAL DIMMER RACK".
 - REPLACE (E) 500A TRIP PLUG WITH (N) 400A TRIP DEVICE, FULLY COMPATIBLE WITH (E) BREAKER.
 - REPLACE (E) 500A TRIP PLUG WITH (N) 200A TRIP DEVICE, FULLY COMPATIBLE WITH (E) BREAKER.
 - PROVIDE AND INSTALL (N) BREAKER AT (E) SPACE AT BOTTOM OF DISTRIBUTION BOARD, NEW BREAKER TO MATCH (E) IN MFRG AND A/C RATING (FRANK ADAM ELECTRIC COMPANY, MIN. 65KAIC).
 - NEW FEEDER CONDUIT AND CONDUCTORS, ROUTED OVERHEAD FROM (E) GEAR TO (N) EQUIPMENT. TERMINATE COMPLETE AT BOTH ENDS. SEE E-111 FOR ROUTING.
 - SEE E-111 FOR ROUTING TO STAGE AREA ON LEVEL ABOVE.
 - (96) DIMMED CIRCUITS (WITH DEDICATED NEUTRALS) FROM BASEMENT MAIN ELECTRIC ROOM TO STAGE LEFT PULLBOX LOCATION, PER DIMMER PANEL CONDUCTOR SCHEDULE.
 - (48) RELAY CIRCUITS (WITH DEDICATED NEUTRALS) FROM BASEMENT MAIN ELECTRIC ROOM TO STAGE LEFT PULLBOX LOCATION, PER DIMMER PANEL CONDUCTOR SCHEDULE.
 - (24) DIMMED CIRCUITS (WITH DEDICATED NEUTRALS) FROM BASEMENT PANEL 'ADR' LOCATION TO OLD PANEL 'S' TERMINAL CAN AT STAGE LEFT, PER DIMMER PANEL CONDUCTOR SCHEDULE.
 - NEW FEEDER CONDUCTORS AND PARTIAL (N) CONDUIT, UTILIZE (E) PANEL 'S' FEEDER CONDUIT FROM (E) BASEMENT DIMMER PANEL AREA TO JUST BELOW (E) PANEL 'S' FOR (N) CONDUCTORS. SEE E-111 FOR ROUTING. PROVIDE (N) CONDUIT EXTENSIONS AT EACH END TO COMPLETE THE NEW RUN.

(E) CONDUCTORS FROM (E) DEVICE LOCATIONS. SPLICE AT (N) TERMINAL STRIPS TO (N) CONDUCTORS. NEATLY SEGREGATE AND BUNDLE CONDUCTORS AND LABEL ALL CONDUCTORS WITH CKT. NUMBERS WITHIN 2" OF TERMINAL STRIP.



TYPICAL INSULATED SCREW TERMINAL STRIP #8-#10 IN / #8-#10 OUT NO WIRE NUT SPLICES TO BE USED (MOUNT ISOLATED FROM METAL CAN). PROVIDE QTY. AS REQUIRED FOR ALL (E) DEVICE CIRCUIT SPLICES AND MOUNT IN ORDER OF CIRCUIT NUMBERS, WITH PERMANENT LABELS TO IDENTIFY CIRCUIT RANGE AT EACH STRIP.

(N) CONDUCTORS TO BASEMENT VIA (E) AND (N) CONDUITS. SEE CONDUCTOR SCHEDULE. LABEL ALL CONDUCTORS WITH CKT. NUMBERS WITHIN 2" OF TERMINAL STRIP.

SPLICE BOX DETAIL
SCALE: NONE



DIMMER / RELAY PANEL CONDUCTOR SCHEDULE:

PRODUCTION DIMMERS: (96) 20A CIRCUITS FROM STAGE LEFT PULLBOX TO DIMMER 'PDR' AT BASEMENT ELECTRIC ROOM

- | | | | |
|------------------------------|---------------------|--|--------------------------------------|
| (1) EXISTING 3" RGS CONDUIT: | (40) 20A CIRCUITS = | (80) #8 AWG COPPER THWN (75C) + (1)#8G ***** | (82) #8 MAX FOR 40% RGS CONDUIT FILL |
| (1) EXISTING 3" RGS CONDUIT: | (40) 20A CIRCUITS = | (80) #8 AWG COPPER THWN (75C) + (1)#8G ***** | (82) #8 MAX FOR 40% RGS CONDUIT FILL |
| (1) EXISTING 2" RGS CONDUIT: | (16) 20A CIRCUITS = | (32) #8 AWG COPPER THWN (75C) + (1)#8G ***** | (37) #8 MAX FOR 40% RGS CONDUIT FILL |

THEATRICAL RELAYS: (48) 20A CIRCUITS FROM STAGE PULLBOX TO RELAY PANEL 'R' AT BASEMENT ELECTRIC ROOM

- | | | | |
|--------------------------------|---------------------|--|---------------------------------------|
| (1) EXISTING 2.5" RGS CONDUIT: | (26) 20A CIRCUITS = | (52) #8 AWG COPPER THWN (75C) + (1)#8G ***** | (53) #8 MAX FOR 40% RGS CONDUIT FILL |
| (1) EXISTING 1.5" RGS CONDUIT: | (10) 20A CIRCUITS = | (20) #10 AWG COPPER THWN (75C) + (1)#10G ** | (39) #10 MAX FOR 40% RGS CONDUIT FILL |
| (1) NEW 2" RGS CONDUIT: | (12) 20A CIRCUITS = | (24) #8 AWG COPPER THWN (75C) + (1)#8G *** | (37) #8 MAX FOR 40% RGS CONDUIT FILL |

ARCHITECTURAL DIMMERS: (24) 20A CIRCUITS FROM PANEL 'S' TERMINAL CAN TO DIMMER PANEL 'ADR' AT BASEMENT ELECTRIC ROOM

- | | | | |
|------------------------------|---------------------|--|---------------------------------------|
| (1) EXISTING 2" RGS CONDUIT: | (16) 20A CIRCUITS = | (32) #8 AWG COPPER THWN (75C) + (1)#8G ***** | (37) #8 MAX FOR 40% RGS CONDUIT FILL |
| (1) NEW 1.25" RGS CONDUIT: | (8) 20A CIRCUITS = | (16) #10 AWG COPPER THWN (75C) + (1)#10G ** | (29) #10 MAX FOR 40% RGS CONDUIT FILL |

- * AMPACITY DERATING:**
USE #10 CONDUCTORS AT 70% DERATING FOR (7) TO (9) CONDUCTORS IN CONDUIT
#10 AWG = 35 AMPS AMPACITY (75C RATING)
AT 70% DERATING = 24.5 AMP AMPACITY FOR CONTINUOUS LOAD
OK FOR 20A CIRCUITS
- ** AMPACITY DERATING:**
USE #10 CONDUCTORS AT 50% DERATING FOR (10) TO (20) CONDUCTORS IN CONDUIT
#10 AWG = 35 AMPS AMPACITY (75C RATING)
AT 50% DERATING = 17.5 AMP AMPACITY FOR CONTINUOUS LOAD
OK FOR 20A CIRCUITS (OCPD MAY BE ROUNDED UP TO NEXT STANDARD SIZE)
- *** AMPACITY DERATING:**
USE #8 CONDUCTORS AT 45% DERATING FOR (21) TO (30) CONDUCTORS IN CONDUIT
#8 AWG = 50 AMPS AMPACITY (75C RATING)
AT 45% DERATING = 22.5 AMP AMPACITY FOR CONTINUOUS LOAD
OK FOR 20A CIRCUITS
- **** AMPACITY DERATING:**
USE #8 CONDUCTORS AT 40% DERATING FOR (31) TO (40) CONDUCTORS IN CONDUIT
#8 AWG = 50 AMPS AMPACITY (75C RATING)
AT 40% DERATING = 20 AMP AMPACITY FOR CONTINUOUS LOAD
OK FOR 20A CIRCUITS
- ***** AMPACITY DERATING:**
USE #8 CONDUCTORS AT 35% DERATING FOR MORE THAN (40) CONDUCTORS IN CONDUIT
#8 AWG = 50 AMPS AMPACITY (75C RATING)
AT 35% DERATING = 17.5 AMP AMPACITY FOR CONTINUOUS LOAD
OK FOR 20A CIRCUITS (OCPD MAY BE ROUNDED UP TO NEXT STANDARD SIZE)

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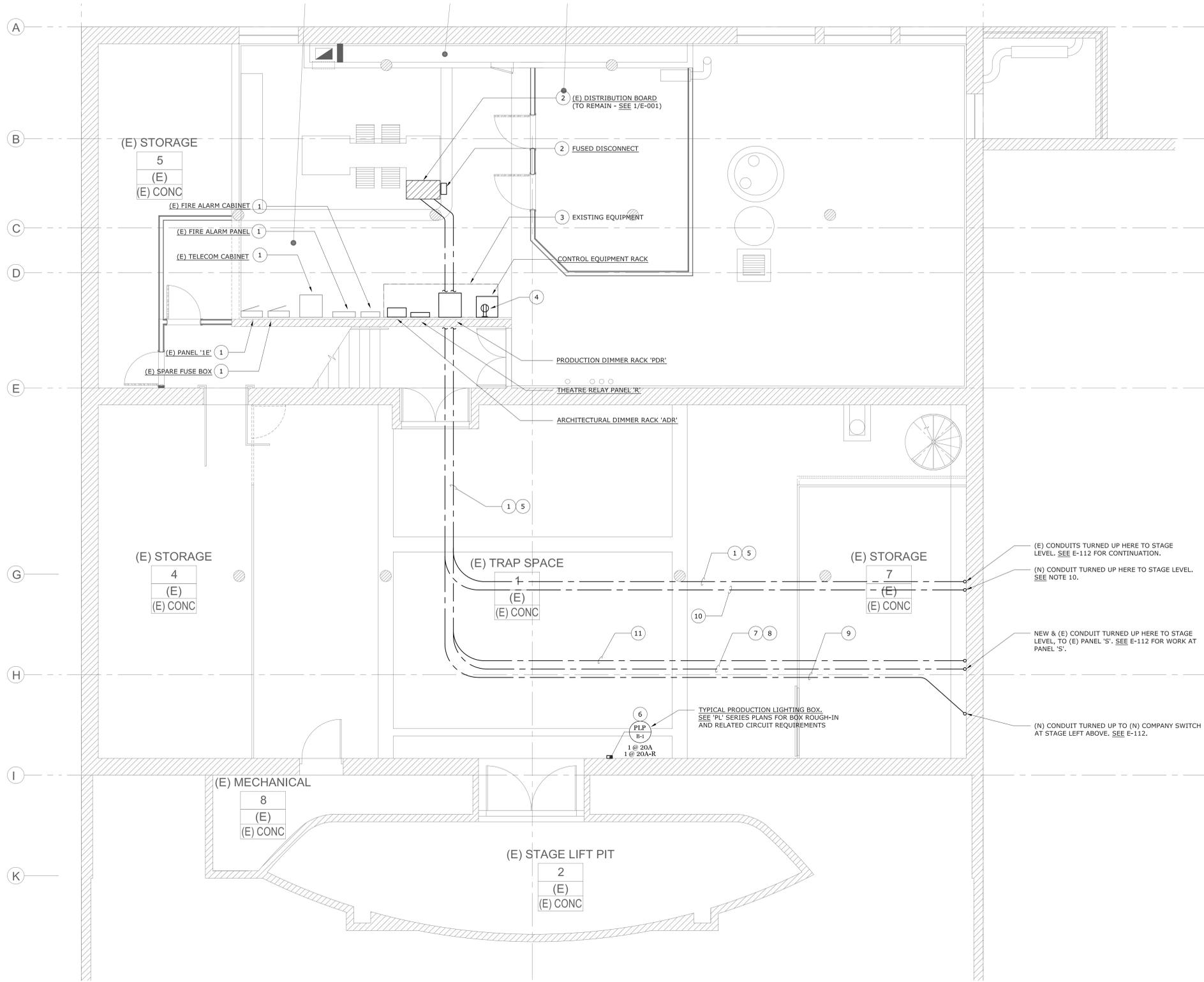
**PERFORMING ARTS LIGHTING UPGRADE
COLLEGE OF MARIN
KENTFIELD CAMPUS**

Issue: 100% CD date: 12/21/15

drawn by: checked by:

scale: AS NOTED

**SYMBOLS LIST, NOTES,
SINGLE LINE DIAGRAM
E-001**



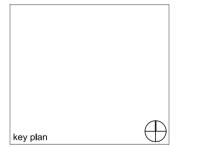
- ### NUMBERED SHEET NOTES
- 1 EXISTING EQUIPMENT AND RACEWAYS TO REMAIN. PROTECT IN PLACE, EXCEPT AS NOTED.
 - 2 SEE 1/E-001 FOR WORK AT (E) PANEL.
 - 3 INCLUDE COMPLETE SAFE-OFF, DISCONNECTION, AND REMOVAL OF (E) DIMMER EQUIPMENT AND ENCLOSURE AND PROPERLY DISPOSE TO MAKE SPACE FOR NEW EQUIPMENT SHOWN. SEE NOTE 13, SHEET E-112 FOR (E) COVE LIGHTING BRANCH CIRCUITS TO BE MAINTAINED AND RECONNECTED TO NEW DIMMER PANEL 'ADR'. ALL OTHER (E) CIRCUITS TO BE REMOVED.
 - 4 NEW 20A DUPLEX SURFACE MTD. ON CONCRETE WALL. COORDINATE EXACT LOCATION WITH RACK INSTALLER PRIOR TO ROUGH-IN.
 - 5 EXISTING CONDUIT RACKING AT CEILING; (2) 3", (1) 2.5", (1) 2", (1) 1.5" (ALL TO REMAIN). REMOVE (E) CONDUCTORS BETWEEN PATCH PANEL AT STAGE LEFT AND (E) BASEMENT DIMMER PANEL LOCATION. UTILIZE RACEWAYS FOR NEW CONDUCTORS PER CONDUCTOR SCHEDULES.
 - 6 EXISTING PRODUCTION LIGHTING POWER OUTLET LOCATION. (E) TO BE REMOVED AND REPLACED (PER 'PL' PLANS). UTILIZE (E) CONDUCTORS FROM (E) BOX LOCATION TO (E) PATCH PANEL AT STAGE LEVEL.
 - 7 DISCONNECT AND REMOVE (E) FEEDER CONDUCTORS FROM (E) DIMMER EQUIPMENT AT BASEMENT (NOTE 3) TO (E) PANEL 'S' AT STAGE LEVEL. INCLUDES MULTIPLE FEEDERS TO SEGMENTED BUS IN PANEL 'S'. MAINTAIN RACEWAY FOR (N) BRANCH CIRCUITS TO ARCHITECTURAL LIGHTING DIMMER 'ADR' AT BASEMENT ELECTRIC ROOM.
 - 8 UTILIZE (E) RACEWAY FROM (E) EQUIPMENT (VACATED PER NOTE 7) FOR (N) BRANCH CIRCUITS TO DIMMER PANEL 'ADR', PER DIMMER CONDUCTOR SCHEDULE.
 - 9 (N) FEEDER ROUTED AT CEILING, IN PARALLEL WITH (E) RACEWAYS, TO (N) COMPANY SWITCH AT STAGE LEFT. SEE 1/E-001 FOR SIZE.
 - 10 (N) 2" RGS ROUTED AT CEILING IN PARALLEL WITH (E) RACEWAYS, TO (N) PULLBOX AT STAGE LEFT, FOR ADDITIONAL RELAY PANEL BRANCH HOMERUNS, PER RELAY PANEL CONDUCTOR SCHEDULE. PROVIDE CORE DRILL AND TURN-UP TO STAGE LEVEL, NEXT TO (E) CONDUITS, INTO (N) PULLBOX.
 - 11 (N) 1.25" RACEWAY ROUTED AT CEILING IN PARALLEL WITH (E) RACEWAYS, FROM (E) PANEL 'S' AT STAGE LEFT TO (N) DIMMER PANEL 'ADR' (FOR DIMMED BRANCH CIRCUITS PER DIMMER CONDUCTOR SCHEDULE), PROVIDE CORE DRILL AND TURN-UP TO STAGE LEVEL, TO (E) PANEL 'S' CAN.

1 BASEMENT PLAN - ELECTRICAL
1/4" = 1'-0"

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- (E) CONDUITS TURNED UP HERE TO STAGE LEVEL. SEE E-112 FOR CONTINUATION.
- (N) CONDUIT TURNED UP HERE TO STAGE LEVEL. SEE NOTE 10.
- NEW & (E) CONDUIT TURNED UP HERE TO STAGE LEVEL, TO (E) PANEL 'S'. SEE E-112 FOR WORK AT PANEL 'S'.
- (N) CONDUIT TURNED UP TO (N) COMPANY SWITCH AT STAGE LEFT ABOVE. SEE E-112.

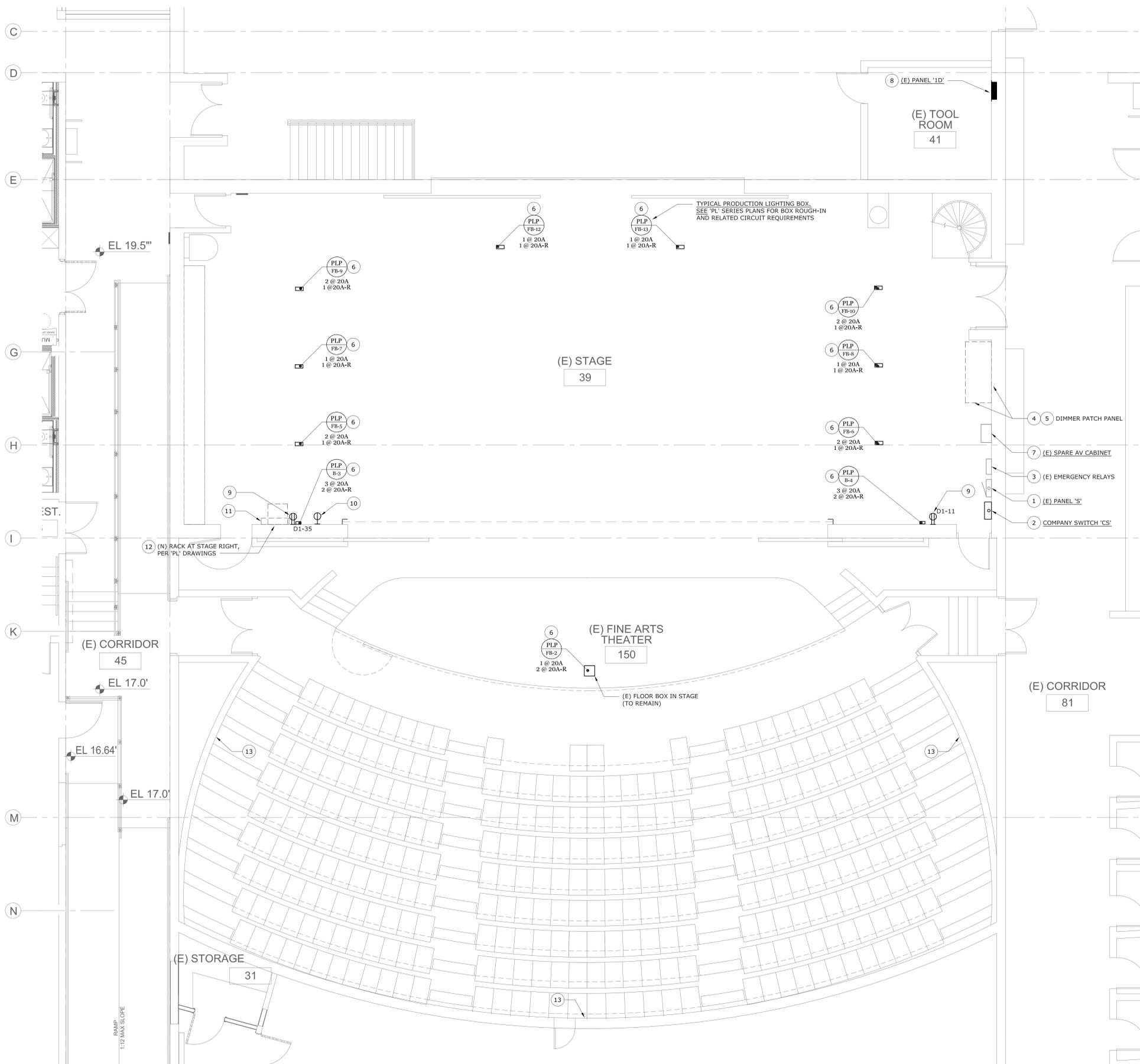


- ### THEATRICAL SYSTEM NOTES
1. SEE THEATRICAL CONSULTANT'S DRAWINGS AND SPECIFICATIONS FOR ALL PRODUCTION LIGHTING AND RELATED EQUIPMENT AND DEVICE LOCATIONS AND REQUIREMENTS.
 2. THE THEATRICAL CONTRACTOR WILL PROVIDE AND INSTALL ALL THEATRICAL LIGHTING RELATED WORK AS PER THE THEATRICAL DRAWINGS.
 3. THE DIVISION 26 CONTRACTOR SHALL REFER TO THE 'PL' SERIES PLANS AND PROVIDE AND INSTALL ALL REQUIRED ELECTRICAL WORK AS SHOWN ON THE 'E' SERIES DRAWINGS, IN FULL COORDINATION WITH THE 'PL' SERIES DRAWINGS, INCLUDING COMPANY SWITCH AND OTHER RELATED LINE VOLTAGE EQUIPMENT.

PERFORMING ARTS
LIGHTING UPGRADE
COLLEGE OF MARIN
KENTFIELD CAMPUS

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BASEMENT PLAN -
ELECTRICAL
E-111

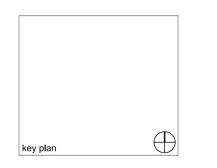


NUMBERED SHEET NOTES

- 1 DISCONNECT AND REMOVE (4) EXISTING SPLIT-BUS FEEDERS TO PANEL 'S', BACK TO SOURCE AT BASEMENT DIMMER PANEL TO BE REMOVED. SEE E-111 FOR (E) FEEDER ROUTING. FIELD IDENTIFY AND TAG ALL (E) BRANCH CIRCUITS IN PANEL 'S', WHICH INCLUDE:
 - CKTS 1-18: HOUSE LIGHTING (TO BE RE-FED TO NEW PANEL 'ADP')
 - CKTS 19-24: GRID RECEPTACLES (TO BE REMOVED & ABANDONED)
 - CKTS 25-30: SPARE (NO EXISTING LOADS)
 - CKTS 31-36: WORK LIGHTING (TO BE REMOVED & ABANDONED)
 REMOVE ALL INTERIOR DEVICES AND BUSSING AND RE-DESIGNATE CAN AS A TERMINAL CAN FOR THROUGH-WIRING OF (E) CIRCUITS 1-18. PROVIDE ENGRAVED LABEL: "HOUSE LIGHTING TERMINAL CAN". PROVIDE AND INSTALL TERMINAL STRIPS INSIDE (E) PANEL CAN AND EXTEND (E) HOUSE LIGHTING CIRCUITS 1-18, PER DETAIL 2/E-001, TO NEW ARCHITECTURAL DIMMER RACK 'ADR' AT BASEMENT ELECTRIC ROOM. PROVIDE CORE DRILL AND (1) NEW 1.25" CONDUIT AND TRANSITION TO BELOW. SEE E-111 FOR CONTINUATION TO DIMMER PANEL ADR'.
- 2 PROVIDE AND INSTALL (N) FEEDER FOR COMPANY SWITCH, PER 1/E-001. CORE DRILL SLAB TO BELOW AND ROUTE PER E-111, BACK TO ELECTRIC ROOM EQUIPMENT. SEE 26 05 35 FOR COMPANY SWITCH SPECIFICATION.
- 3 REPLACE (4) EXISTING NON-UL 924 LISTED EMERGENCY LIGHTING TRANSFER RELAYS IN (E) NEMA 1 ENCLOSURE WITH (4) NEW UL 924 LISTED RELAYS. RECONNECT COMPLETE TO MAINTAIN ORIGINAL FUNCTION OF TRANSFER TO NON-DIMMED EMERGENCY CIRCUITS FOR FULL LIGHT OUTPUT UPON LOSS OF NORMAL POWER. UL 924 TRANSFER RELAYS TO BE LVS #EPC-D-F OR EQUAL. ALL INCOMING AND OUTGOING CIRCUITS TO REMAIN AS LISTED ON COVER OF (E) ENCLOSURE. ALSO MAINTAIN (E) FA SYSTEM INTERFACE.
- 4 FIELD IDENTIFY AND TAG ALL (E) INCOMING AND OUTGOING BRANCH CIRCUITS IN (E) PATCH PANEL, INCLUDING RELATED NEUTRALS. MAINTAIN (E) OUTGOING CIRCUIT CONDUCTORS (WITH MATCHED DEDICATED NEUTRALS) TO ALL THEATRE PRODUCTION LIGHTING DEVICES. (E) ENCLOSURE SHALL REMAIN IN PLACE. TO BE MODIFIED PER NOTE 5. DISCONNECT AND REMOVE ALL EXISTING INCOMING CIRCUITS BACK TO SOURCE AT (E) BASEMENT DIMMER PANEL. MAINTAIN ALL (E) INCOMING RACEWAYS BACK TO BASEMENT FOR RE-USE WITH (N) CONDUCTORS PER DIMMER PANEL CONDUCTOR SCHEDULE.
- 5 MAINTAIN (E) PATCH SYSTEM ENCLOSURE. PROVIDE NEW CUSTOM FRONT VERTICAL PANELS TO REPLACE THE EXISTING FRONT DEVICES AND PANELS THAT ARE TO BE REMOVED AT BOTH LOWER AND UPPER FRONT FACES OF THE ENCLOSURE. REMOVE THE (E) HINGED WOOD COVER CURRENTLY OPEN IN THE UP POSITION AGAINST THE WALL. PROVIDE AND INSTALL TERMINAL STRIPS INSIDE (N) RACK ENCLOSURE AND EXTEND ALL (E) CIRCUITS, PER DETAIL 2/E-001, TO NEW PRODUCTION DIMMER RACK 'PDR' AT BASEMENT MAIN ELECTRIC ROOM. SEE E-111 FOR LOCATION OF 'PDR'.
- 6 EXISTING FLOOR BOX TO REMAIN. PROVIDE NEW POWER CONNECTIONS AS SHOWN, TO NEW DEVICES, PER 'PL' DRAWINGS. UTILIZE (E) CONDUCTORS FROM FLOOR BOX BACK TO (E) STAGE RIGHT PATCH PANEL, WHERE CIRCUITS SHALL BE SPICED TO (N) CONDUCTORS TO (N) DIMMER RACK 'PDR' AT BASEMENT.
- 7 MAINTAIN (E) CABINET. PROTECT IN PLACE. RE-FEED (E) 120V CIRCUIT IN CABINET WITH NEW, PER PLANS.
- 8 UTILIZE (E) SPARE 20A/1P BREAKERS 11 AND 31 FOR (N) BRANCH LOADS. REPLACE (E) 20A/2P BREAKER AT POSITION 33/35 WITH (2) NEW 20A/1P BRANCH BREAKERS. NEW BREAKERS TO MATCH (E) IN MFR. AND AIC RATING.
- 9 NEW SURFACE MOUNTED DUPLEX RECEPTACLE WITH (2)#12 + (1)#12G IN 1/2" CONDUIT.
- 10 DISCONNECT AND REMOVE (E) PIN AND SLEEVE RECEPTACLE AT THIS LOCATION, INCLUDING BRANCH CIRCUIT CONDUCTORS BACK TO (E) DIMMER PANEL AT BASEMENT ELECTRIC ROOM. ABANDON AND CAP (E) CONDUIT IN PLACE.
- 11 REMOVE (E) STAGE RIGHT CONTROL BOX. COORDINATE WITH 'PL' DRAWINGS SCOPE. MAINTAIN THE FOLLOWING (E) LINE VOLTAGE DEVICES AND RECONNECT COMPLETE IN (N) RACK, PER NOTE 12 BELOW:
 - (1) PROJECTION SCREEN CONTROL SWITCH
 - (2) ORCHESTRA PIT SWITCHES
 - (1) NEW 600WATT 120V DIMMER (LUTRON NOVA-T SLIDE-TO-OFF TYPE)
 - MAINTAIN (1) EXISTING 120V CIRCUIT FOR PAGE AMP AND RE-SPLICE (WITHOUT A SWITCH) TO MAINTAIN (E) LOAD RECEPTACLE AT STAGE LEFT. EXISTING SWITCH MAY BE REMOVED.
- 12 (N) RACK TO BE PROVIDED WITH DEDICATED LINE VOLTAGE SECTION (UNDER 'PL' DRAWINGS SCOPE) FOR RE-TERMINATION AND CONNECTION OF THE DEVICES NOTED IN NOTE 11 ABOVE. RECONNECT EACH COMPLETE, WITH NEW CONDUCTOR EXTENSIONS, AS REQUIRED. PROVIDE NEW ENGRAVED LABELS ON EACH TO IDENTIFY USE, SIMILAR TO EXISTING.
- 13 (E) COVE LIGHTING AT SIDES AND REAR WALLS OF THEATRE (NOT SHOWN). COVE LIGHTING CONSIST OF A TOTAL OF (44) LED SCREW-IN LAMPS. COVE LIGHTING SHALL BE RE-FED FROM (N) ARCHITECTURAL DIMMER PANEL 'ADR' AT BASEMENT ELECTRIC ROOM. FIELD LOCATE, IDENTIFY, AND TAG (E) CIRCUITS AT (E) DIMMER PANEL AT BASEMENT ELECTRIC ROOM, PRIOR TO DEMO IF DIMMER PANEL. INTERCEPT (E) COVE LIGHTING CIRCUIT AT THIS LOCATION AND EXTEND NEW #12 CONDUCTORS TO (N) ARCHITECTURAL DIMMER PANEL 'ADR' ON SAME WALL. SEE E-111.

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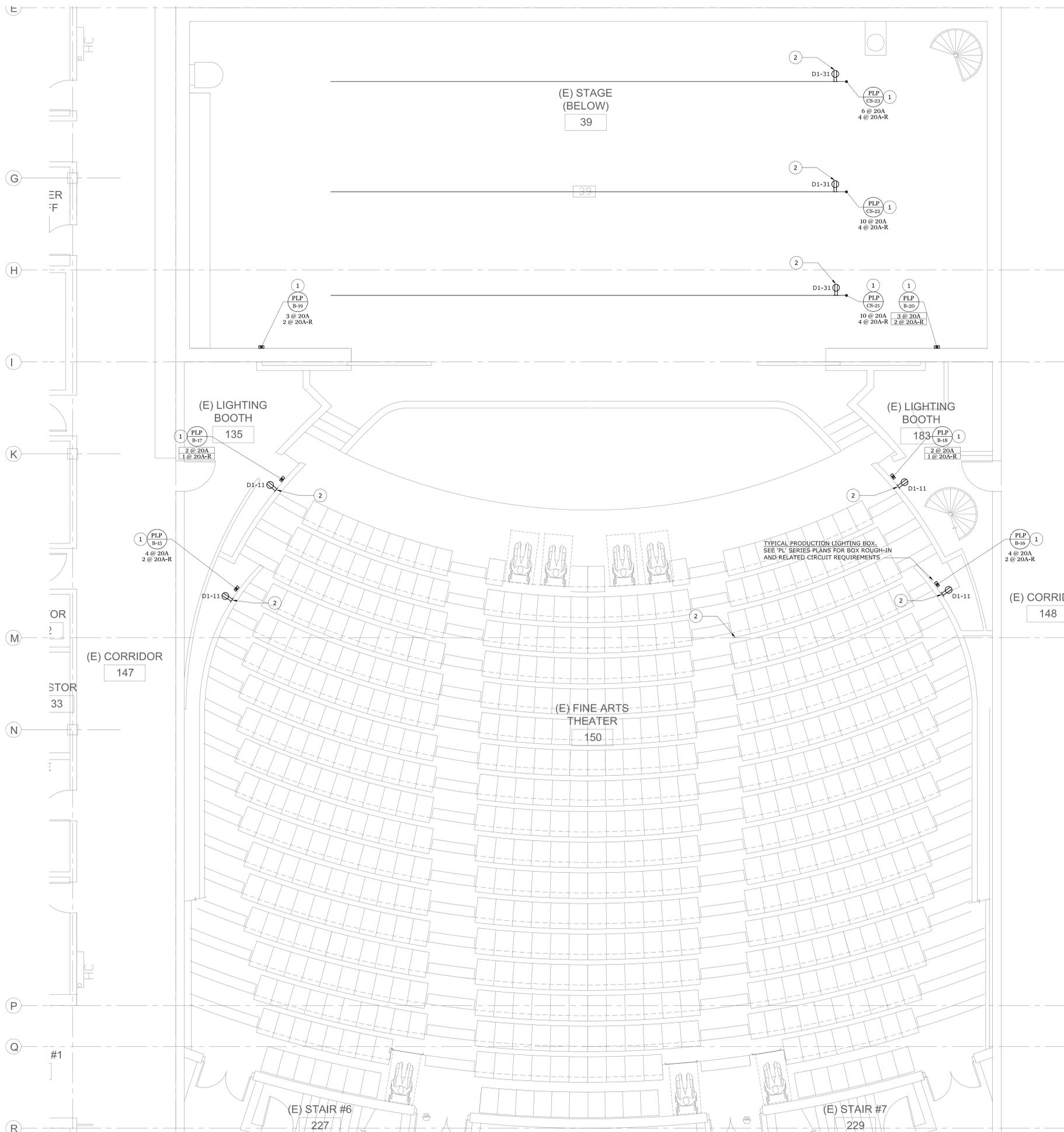


PERFORMING ARTS LIGHTING UPGRADE
COLLEGE OF MARIN
KENTFIELD CAMPUS

Issue: 100% CD date: 12/21/15
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scale: AS NOTED
FIRST FLOOR THEATRE - ELECTRICAL

THEATRICAL SYSTEM NOTES

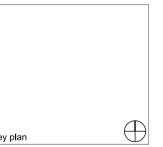
1. SEE THEATRICAL CONSULTANT'S DRAWINGS AND SPECIFICATIONS FOR ALL PRODUCTION LIGHTING AND RELATED EQUIPMENT AND DEVICE LOCATIONS AND REQUIREMENTS.
2. THE THEATRICAL CONTRACTOR WILL PROVIDE AND INSTALL ALL THEATRICAL LIGHTING RELATED WORK AS PER THE THEATRICAL DRAWINGS.
3. THE DIVISION 26 CONTRACTOR SHALL REFER TO THE 'PL' SERIES PLANS AND PROVIDE AND INSTALL ALL REQUIRED ELECTRICAL WORK AS SHOWN ON THE 'E' SERIES DRAWINGS, IN FULL COORDINATION WITH THE 'PL' SERIES DRAWINGS, INCLUDING COMPANY SWITCH AND OTHER RELATED LINE VOLTAGE EQUIPMENT.



- ### NUMBERED SHEET NOTES
- 1 EXISTING PRODUCTION LIGHTING POWER BOX TO REMAIN. PROVIDE NEW POWER CONNECTIONS AS SHOWN, TO NEW DEVICES, PER 'PL' DRAWINGS. UTILIZE (E) CONDUCTORS FROM BOX BACK TO (E) STAGE RIGHT PATCH PANEL. WHERE CIRCUITS SHALL BE SPLICED TO (N) CONDUCTORS TO (N) DIMMER RACK 'PDR' AT BASEMENT. SEE E-111 FOR PATCH PANEL LOCATION.
 - 2 PROVIDE 20A DUPLEX POWER RECEPTACLE AT CONTROL LOCATION, WITH (2)#12 + (1)#12G IN 1/2" CONDUIT.

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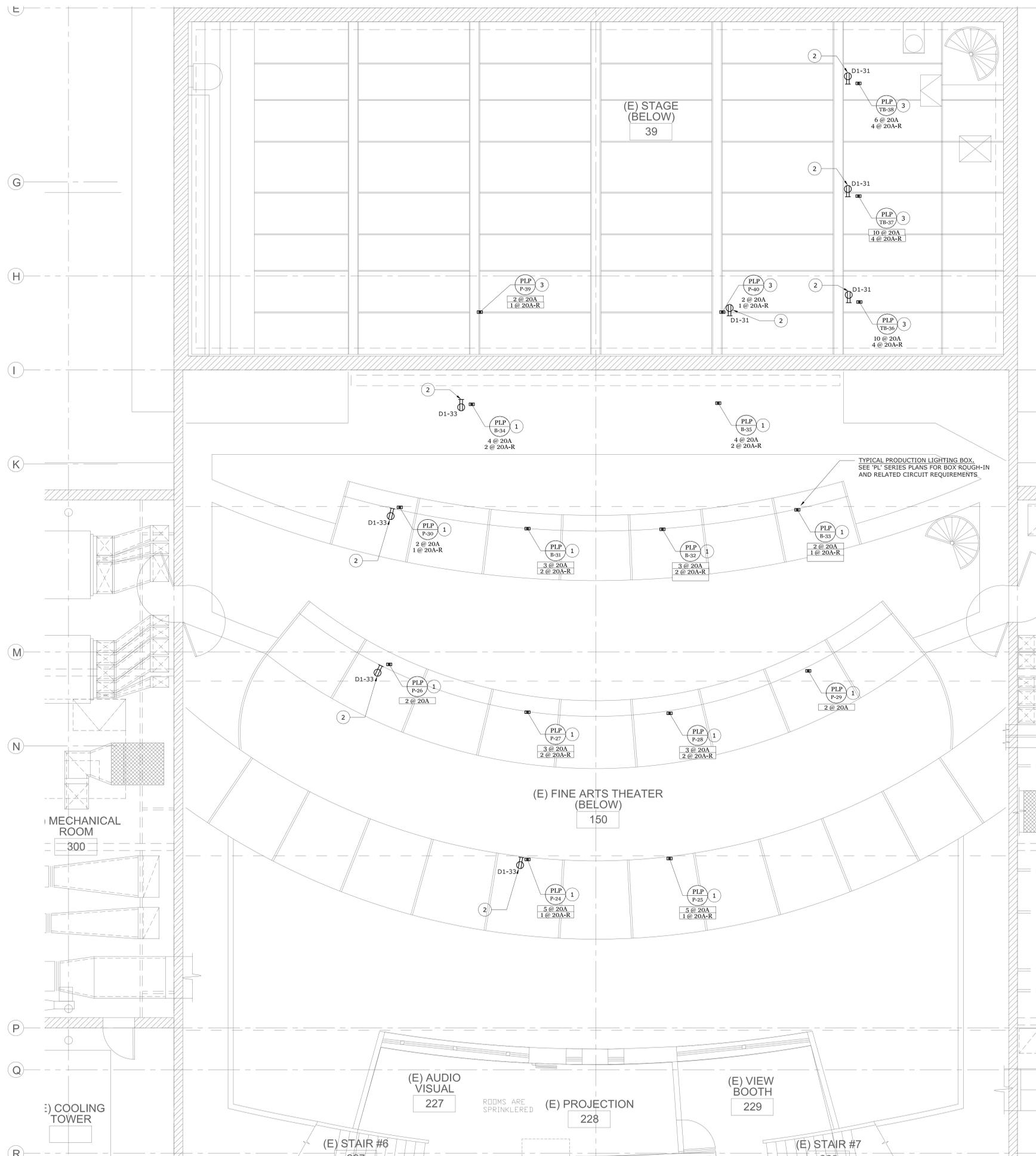
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- ### THEATRICAL SYSTEM NOTES
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 3. THE DIVISION 26 CONTRACTOR SHALL REFER TO THE 'PL' SERIES PLANS AND PROVIDE AND INSTALL ALL REQUIRED ELECTRICAL WORK AS SHOWN ON THE 'E' SERIES DRAWINGS, IN FULL COORDINATION WITH THE 'PL' SERIES DRAWINGS, INCLUDING COMPANY SWITCH AND OTHER RELATED LINE VOLTAGE EQUIPMENT.

**PERFORMING ARTS LIGHTING UPGRADE
COLLEGE OF MARIN
KENTFIELD CAMPUS**

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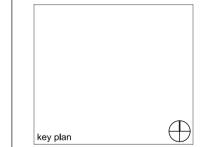
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SECOND FLOOR THEATRE - ELECTRICAL



- ### NUMBERED SHEET NOTES
1. EXISTING PRODUCTION LIGHTING POWER BOX AT CATWALK TO REMAIN. PROVIDE NEW CONDUCTORS IN (E) RACEWAYS ALONG HORIZONTAL RUN AT CATWALK, TO FIRST CATWALK JUNCTION BOX AT STAGE LEFT SIDE. SPLICE TO (E) CONDUCTORS AT FIRST JUNCTION BOX AND UTILIZE (E) CONDUCTORS FROM JUNCTION BOX BACK TO (E) STAGE RIGHT PATCH PANEL, WHERE CIRCUITS SHALL BE SPLICED TO (N) CONDUCTORS TO (N) DIMMER RACK 'PDR' AT BASEMENT. SEE E-111 FOR PATCH PANEL LOCATION.
 2. PROVIDE 20A DUPLEX POWER RECEPTACLE AT CONTROL LOCATION, WITH (2)#12 + (1)#12G IN 1/2" CONDUIT.
 3. EXISTING PRODUCTION LIGHTING POWER BOX AT GRID-IRON TO REMAIN. UTILIZE (E) CONDUCTORS FROM JUNCTION BOX BACK TO (E) STAGE RIGHT PATCH PANEL, WHERE CIRCUITS SHALL BE SPLICED TO (N) CONDUCTORS TO (N) DIMMER RACK 'PDR' AT BASEMENT. SEE E-111 FOR PATCH PANEL LOCATION.

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UPPER LEVELS THEATRE - ELECTRICAL
E-114

- ### THEATRICAL SYSTEM NOTES
1. SEE THEATRICAL CONSULTANT'S DRAWINGS AND SPECIFICATIONS FOR ALL PRODUCTION LIGHTING AND RELATED EQUIPMENT AND DEVICE LOCATIONS AND REQUIREMENTS.
 2. THE THEATRICAL CONTRACTOR WILL PROVIDE AND INSTALL ALL THEATRICAL LIGHTING RELATED WORK AS PER THE THEATRICAL DRAWINGS.
 3. THE DIVISION 26 CONTRACTOR SHALL REFER TO THE 'PL' SERIES PLANS AND PROVIDE AND INSTALL ALL REQUIRED ELECTRICAL WORK AS SHOWN ON THE 'E' SERIES DRAWINGS, IN FULL COORDINATION WITH THE 'PL' SERIES DRAWINGS, INCLUDING COMPANY SWITCH AND OTHER RELATED LINE VOLTAGE EQUIPMENT.

1 UPPER LEVELS THEATRE - ELECTRICAL
1/4" = 1'-0"